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IN THE UNITED STATES DISTRICT COURT FOR
THE WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

THE BOEING COMPANY,

Plaintiff,

vs.

AETNA CASUALTY & SURETY CO.,

et al.,

Defendants.

No. C86-352WD

VOLUME 9
3-A

September 4, 1990
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MORNING SESSION

(9 a.m., September 5, 1990)
(The following proceedings
occurred in the presence
of the jury:)

THE COURT: Good morning, ladies and gentlemen. Be
seated, please.

Mr. Forsberg.

MR. FORSBERG: Thank you, Your Honor.

ROBERT I. CARLSON, resumed the stand and
testified further, as
follows:

CROSS-EXAMINATION (resumed)

BY MR. FORSBERG:

Q Good morning, Mr. Carlson. How are you?

A Fine, Mr. Forsberg. The same to you.

Q Ms. Scollard, could you hand the witness Exhibit 44,
please?

Mr. Carlson, I've just had the court reporter hand
to you what has been termed the Ricca Report in this
particular litigation. That's what we've been calling it up
to this point. Do you have that exhibit before you?

A Yes, sir.

Q And the title page of that report says Joint ASG/CSG

1 Industrial Waste Disposal Task Force?

2 A That is correct.

3 Q Do you recall that you were a member of this particular
4 task force?

5 A Yes, sir, I was.

6 Q And you had certain assignments within the task force
7 itself?

8 A Yes.

9 Q Now, I'd like to ask you if you would for a moment please
10 turn to approximately page 6, and on that page I'd like you to
11 turn, depending on how you start, from the title page or the
12 second one, I'd like you to turn to page that says Boeing
13 Projected Chemical Waste Volume, Puget Sound Area Only.

14 Now, that's a page with a chart on it that goes
15 sideways across the page, the long way. Do you see that, sir?

16 A Is that the one that says 750 million gallons of rinse
17 water, et cetera?

18 A No, it doesn't. On the very side of it it says Boeing
19 Projected Chemical Waste Volume, Puget Sound Area Only. On
20 the bottom of it it has --

21 A Yes. Right. I'm with you. It's a curved chart.

22 Q Okay. Thank you. Now, on the bottom of that particular
23 chart it has the years in there from 1969 to 1977; is that
24 correct?

25 A That is correct.

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1 Q Now, this is a projection done by the task force to
2 determine what the volumes were going to be that the Boeing
3 Company was going to have to dispose of during these time
4 periods. Correct?

5 A That's what it is, yes, put together at that time.

6 Q In 1969 we see the approximation of about 2.2 or 2.3
7 million gallons of waste that needed to be disposed of, on the
8 far left-hand side of the chart?

9 A Well, it's in thousands of gallons. Yes, it's a little
10 over two million, something of that kind.

11 Q And this report was completed in 1971, so they had that
12 information at hand.

13 A Yes, sir.

14 Q And the volumes were going downward from a high in '69?

15 A Yes.

16 Q And those volumes were expected to go back up in 1972,
17 weren't they?

18 A They would -- yes.

19 Q That was the projection of this task force?

20 A Yes.

21 Q Do you know when the Boeing Company decided to quit using
22 Western Processing?

23 A It was '77, I believe.

24 Q That would be the same time period that this report said
25 that the volumes would get back up to the '69 high volume?

1 A They would increase again per this chart. That's correct.

2 Q And this is what you projected in '71?

3 A Yes.

4 Q Okay. The next page I'd like you to turn to would be page
5 9, I believe. At the side of that page it says Alternatives
6 Eliminated. Do you have that page?

7 A Yes.

8 Q And on there there's four different paragraphs or
9 groupings?

10 A I see three, sir.

11 Q Okay. Three with bullets next to them.

12 A Yes.

13 Q All right. Now the second of those bullets states Boeing
14 By-product Reclamation, low value products, difficult to
15 process dilute waste, expensive batch operations. Do you see
16 that?

17 A Yes, sir.

18 Q Now, you understood that reclamation was not a money
19 making process, was it?

20 A Will you restate that again, please? I didn't quite hear
21 you.

22 Q The idea or the notion of reclamation is not a money
23 making process when you're talking about the volumes that the
24 Boeing Company has.

25 A That is correct.

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1 Q And you understood that's what Mr. Nieuwenhuis was trying
2 to do?

3 A That's right.

4 Q And you know today and you knew then that you can't make
5 money at that, can you?

6 A Depending on what you charge, sir. The people who bring
7 you these materials, you might make money, but that is the
8 cushion that he would have to work with, is the fee. So far
9 as Boeing treating their own materials, we couldn't do that
10 and make a profit.

11 Q So it would be on the amount that was accepted. That's
12 where you'd make the money; not on the reclamation. Correct?

13 A The reclamation would be part of it. You might sell some
14 products so you'd make some money, but the cost of
15 neutralizing or rendering inert whatever materials you got
16 would have to be charged in the fees charged the people who
17 brought it to you.

18 Q So if I understand you correctly, you can't make money
19 reclaiming but you can make money accepting a lot of wastes?

20 A That's possible, yes.

21 Q And that's what Nieuwenhuis did, isn't it?

22 A Yes.

23 Q He just accepted a lot of wastes.

24 A Yes.

25 Q And he wasn't making any money reclaiming it, was he?

1 A I don't really know about that. I understood that he was
2 having some troubles and he said he needed some more money,
3 yes, all the time.

4 Q The second of those two bullets says Boeing Process
5 Changed. Reduces volume partially. Implementation costs
6 expensive versus benefit achieved. Now, this means that we
7 could change our processes and we don't have to use chromic
8 acid and we don't have to use cyanide. We could use other
9 plating baths. That's right, isn't it?

10 A In a limited sense it is, sir, yes. We were limited by
11 what we -- the baths we used by what the military
12 specifications required. They said we had to use a cyanide
13 bath for plating. There were commercial non-military baths
14 that did not contain cyanide.

15 Q And they weren't as toxic, were they?

16 A Pardon?

17 Q They were not as toxic, were they?

18 A They didn't contain cyanide. That's true.

19 Q Okay. Now, you knew about those during the time period
20 and you could have changed your plating baths, and you could
21 have changed your costs --

22 A Not I, sir. The Boeing Company, if they could get
23 approval from the military to use other materials than were
24 required, but the mil specs we had to adhere to. That's what
25 would have had to have been done to change these.

1 Q My understanding is that your subcontractors did use those
2 different materials. That's right, isn't it?

3 A I am not that familiar with what all the subcontractors
4 did, sir. Some of them may have been given permission to do
5 so, by the Boeing Company quite possibly, but in general, no,
6 that is not --

7 Q Excuse me, Ms. Scollard. Could you please hand the
8 witness Exhibit A-1217?

9 Could you -- do you have the report before you,
10 sir?

11 A A-1217? I don't think so.

12 THE CLERK: No, he doesn't.

13 MR. FORSBERG: Let me see if I can get a copy.
14 That has been admitted. I apologize, Your Honor.

15 May I approach the witness, Your Honor?

16 THE COURT: Yes.

17 Q (by Mr. Forsberg) Sir, do you have that document before
18 you?

19 A Yes, sir.

20 Q Can you explain for me what that is?

21 MR. GORDON: Your Honor, I want to be on board
22 here. 1217 --

23 MR. FORSBERG: I'm sorry. That's 1271.

24 Do you have that one, ma'am.

25 THE CLERK: I do.

1 MR. FORSBERG: I apologize.

2 Q (by Mr. Forsberg) Make sure that this is the same report
3 that the court reporter is giving you, sir.

4 A Yes. It's the same one.

5 Q Okay. Can you tell me, that's a report that you put
6 together?

7 A Yes, I believe I did.

8 Q Okay. Could you please turn, sir, to page, in the lower
9 right-hand corner, 20133863.

10 A 863?

11 Q Yes, sir. At the top of the page it says Today.

12 A Yes.

13 Q Okay. Reading down a few lines, it states, "We can
14 minimize treatment requirements by (1) change solutions to
15 utilize process solutions which do not contain chromic acid.
16 (2) Change solutions to utilize process solutions which do not
17 contain cyanide. This can be done. We allow our subs to do
18 it by specification deviation."

19 That's what we were talking about a minute ago,
20 isn't it?

21 A Yes.

22 Q And that could have been done. Right?

23 A Within certain limitations, sir. For instance, if there
24 were something on the airplane that was purely decorative or a
25 non-engineering requirement, and a supplier was supplying a

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1 part, let's say it was cadmium-plated, in that case he would
2 probably have been given the permission or a permit, PSD,
3 process specification deviation, to use a non-cyanide solution.
4 Were these parts for a military airplane or a commercial top
5 of the line product, no, in general that would not be so.
6 However, if tests had been run and the mil specs were changed,
7 this could be done. That's what I'm saying, that this could
8 be done. In some limited cases we were doing it.

9 Q Mr. Carlson, what does CAG stand for?

10 A Commercial Airplane Group.

11 Q And those wouldn't be military aircraft?

12 A Oh, yes. We made the airplane which was turned over to
13 another group, the Military Airplane Group. The Commercial
14 Airplane Group made airplanes. The Military Airplane Group
15 would take that airplane and put a radome on it, for instance,
16 for those types of airplanes, or presidential airplane,
17 something of that kind, but it was still made by the
18 Commercial Airplane Group.

19 Q My understanding is that these changes could have been
20 done, but if you read down in the last portion here, it says,
21 "To change needs management direction to start."

22 A That is correct.

23 Q You were never given that direction, were you, sir?

24 A No, sir.

25 Q So the cyanide and the chromium acid continued to be sent

1 to Western Processing.

2 A Well, it continued to be used by the Boeing Company.

3 Q And as soon as it was spent chemicals, then it was sent to
4 Western Processing?

5 A Yes.

6 Q Okay. I don't have any other questions regarding the
7 Ricca task force report.

8 Could you please hand to Mr. Carlson A-1610. I'm
9 fairly certain that's the one I want.

10 Do you have that letter before you, sir?

11 A Yes, sir.

12 Q Now, that's a letter that you penned on July 12, 1971?

13 A Yes, sir.

14 Q Or a memo that was sent to Mr. Linbaugh and Morris and
15 with cc to Sargent and Vigna?

16 A That is correct.

17 Q This is a document that you've been previously examined
18 on?

19 A Yes.

20 Q On the second page here, the very last paragraph, we see
21 the statement, "We do not propose to volunteer any information
22 unless so requested by the Department."

23 A Yes, sir.

24 Q Now, during this 1960 to 1970 time period, the state was
25 already specifically concerned regarding leaching from the

1 Auburn sludge that was being taken to Western Processing,
2 weren't they?

3 A There was some kind of a problem with the sludge. It
4 could have been leaching, yes. I'm not -- I wasn't in that
5 loop.

6 Q My question to you is, the state, and you were aware of
7 this, was specifically concerned regarding leaching of that
8 Auburn sludge that was taken to Western Processing.

9 A I inferred that from what Mr. Sargent asked me for
10 information on the sludge. At that time I became aware that
11 there must be some kind of a problem with the sludge.
12 Leaching? No, I don't know that that was in fact the case.

13 Q Excuse me, Ms. Scollard. Could you please hand the
14 witness, I believe it would be in Volume 2 of his deposition
15 dated February 2nd, 1990?

16 I would ask you, sir, when she gives this to you,
17 to turn to page 310. Mr. Carlson, I'm going to be reading
18 from lines 10 through 18, approximately.

19 "Q Do you recall generally during this time period,
20 and I'm talking now about the late sixties, early
21 seventies, that the Department of Ecology was
22 specifically concerned about leaching of the, or
23 leaching occurring as a result of placing this
24 Auburn sludge at Western Processing?

25 "A Yes, they were."

1 Did I read that correctly, sir?

2 A That's what it says there, yes.

3 Q Now, even with this knowledge in mind, or in hand during
4 this time period, you stated in this letter, "We're not going
5 to volunteer any information unless we're requested by the
6 Department."

7 A That's correct.

8 Q Now, Mr. T. A. Wilson testified here for the Boeing
9 Company, and one of the things he testified about was a
10 corporate policy 11(a)1. Were you aware of that corporate
11 policy?

12 A Oh, yes.

13 Q And part of that corporate policy was being a good
14 neighbor; is that right?

15 A Yes.

16 Q And part of that good neighbor policy would be working
17 with the DOE and other regulatory agencies?

18 A That is correct.

19 Q Did you have that corporate policy in mind when you wrote
20 this memo to these people and you said, "I'm not going to
21 volunteer this information unless they specifically ask for
22 it, and I know that they're concerned about this sludge."

23 A I can answer you this way: There was a reason that I put
24 this statement in this letter. It had to do with permitting.
25 In the event that we would have had to do otherwise with the

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1 sludge, such as put it on a city dump or garbage disposal, if
2 you will, or on our own property, the first thing that the
3 state or DOE would have asked for is what is in the sludge.

4 I obtained and I'm requesting here an analysis of
5 the sludge. I got an analysis of the sludge. If this were
6 transmitted, and just simply if I sent it through to Sargent
7 it would have been transmitted, that route, and he said here
8 is what is in the sludge, the next thing that could very well
9 happen - this is what was concerning me - was that a permit
10 would have been issued saying this is what the sludge that you
11 will dispose of on your own property or in a dump will have to
12 consist of, and these are the limits, and it would have been
13 that value in that analysis.

14 However, that sludge would vary from time to time,
15 and so I was concerned about that aspect of it. This does not
16 say that I was not going to give it to them. It says that I
17 wanted to be prepared to give it to them if they requested it.

18 MR. FORSBERG: May I approach?

19 THE COURT: Yes.

20 Q (by Mr. Forsberg) Now, the paragraph right before that,
21 so we can put it into context, says, "Should our analysis
22 prove the case," -- now you're talking about the sludge.

23 Correct? Mr. Carlson?

24 A Yes.

25 Q ". . . we would dump these obnoxious --"

1 Now, obnoxious is something that would be bad.

2 Right?

3 A It's the definition that the state might put on it. They
4 might call it obnoxious, yes.

5 Q Okay. ". . . it might be required that we separately
6 treat and precipitate the cadmium." Now, that's a heavy
7 metal, isn't it?

8 A Yes.

9 Q ". . . the cadmium and copper." That's another heavy
10 metal, isn't it?

11 A It is a metal, yes, but not in general in the sense of
12 toxic metals.

13 Q Okay. ". . . from the cyanide destruction." Now,
14 cyanide, that's another one of the things we've been talking
15 about that you've had problems with. Right?

16 A Yes, there's been discussion about it.

17 Q " . . . from the cyanide destruction process and otherwise
18 the flow of such metallic salts."

19 A That's correct.

20 Q Now, that paragraph right there talks about further
21 treatment that the Boeing Company would have to do prior to
22 disposing of this sludge some place else. Right?

23 A Of the sludge from that particular process.

24 Q Right. Now, that further treatment would cost more money,
25 wouldn't it?

1 A It would have if we were required to do it, certainly.

2 Q Right. But if the state didn't know about it because we
3 didn't volunteer this information, then you wouldn't have to
4 do it, would you?

5 A Well, that was not the point behind this statement that I
6 put in there. In general, when Stu Sargent would call me and
7 ask for what's in the sludge, I told him I know generally
8 what's in it. I don't know exactly, so I'm asking for a
9 report, but I'm not proposing at this point -- I was under no
10 instructions from Stu Sargent to reveal this information to
11 anybody.

12 Q You gave the information to him. Do you know if he ever
13 gave it to the state?

14 A No. I really don't. I also made an assumption, sir, that
15 since this sludge was going to Western Processing, I assumed
16 that he had analytical capability and if the state wanted to
17 know what was in it, he could have analyzed it, also. But the
18 state already knew.

19 Q Ms. Scollard, could you please hand the witness A-2078.

20 At this time, Your Honor, I would move to have it
21 admitted.

22 THE COURT: A-278?

23 MR. FORSBERG: Yes, Your Honor. 2078.

24 THE COURT: Any objection?

25 MR. GORDON: No objection.

1 THE COURT: It's admitted.

2 (Defendant's Exhibit No. A-2078
3 for identification received
4 in evidence.)

5 MR. FORSBERG: Thank you, Your Honor.

6 Q (by Mr. Forsberg) Do you have that report before you,
7 sir?

8 A Yes, sir.

9 Q Can you tell us, is that entitled Liquid Waste Disposal,
10 Proposal, Evaluation?

11 A Yes, sir.

12 Q And it has an evaluation committee there?

13 A Yes.

14 Q And it lists six people?

15 A That's correct.

16 Q Could you please tell us who those six people were? Just
17 mention that for the record.

18 A Mr. Bailey, who was in the Materiel Department. That's
19 Purchasing. Myself. A Mr. P. G. Hebner who was working for
20 me at the time as a consultant and also had been a previous
21 Boeing employee. Mr. Howard Donaldson from Plant II. Mr. Stu
22 Sargent from Plant II. And Paul Carlson of the legal staff of
23 the Boeing Company.

24 Q Now, my understanding is that the six people that were
25 chosen for this evaluation committee were chosen because of

1 their experience and expertise in different areas; is that
2 correct?

3 A Yes.

4 Q Now, I also understand that Mr. Donaldson and Mr. Sargent
5 were chosen on this committee for their experience and
6 knowledge with regard to Western Processing. That's right,
7 isn't it?

8 A I would assume so. Yes, sir.

9 Q That was your understanding at the time, wasn't it?

10 A Yes.

11 Q Okay. Now, this report was put together through the work
12 of the committee which these six people all sat on. Correct?

13 A Yes.

14 Q And you worked through drafts of this report with these
15 people?

16 A Yes, sir.

17 Q And then a final report came out and you saw that when it
18 came out?

19 A I prepared the report, sir.

20 Q Okay. Sir, I would ask you to turn to the page, I believe
21 on the side of it it's 05030249. If you see those numbers on
22 the side there.

23 A Yes.

24 Q Do you have that page before you?

25 May I approach the easel, Your Honor?

1 THE COURT: Yes.

2 Q Now, down here in the middle, a little below the middle of
3 the page where it states, "Western Processing has polluted and
4 is a potential pollution risk."

5 A Yes.

6 Q Do you see that called out?

7 A Yes.

8 Q Okay. Now, you would have gotten that information from
9 Mr. Sargent and Mr. Donaldson. Correct?

10 A Yes.

11 Q And they told you when you were writing this report, when
12 you were thinking about whether or not you were going to use
13 these different places for disposal of Boeing's waste, they
14 told you, "I want to let you know when you're writing this
15 report, Western Processing has polluted and is a potential
16 pollution risk?"

17 MR. GORDON: I object to the preamble. Again
18 we're getting multiple questions.

19 THE COURT: Sustained.

20 Q (by Mr. Forsberg) You spoke to Mr. Sargent and Mr.
21 Donaldson about Western Processing.

22 A That was one of the copies we were looking at, yes.

23 Q And you spoke to them about their knowledge and experience
24 with Western Processing?

25 A Yes, sir.

1 Q They told you what they knew about Western Processing?

2 A Yes, sir.

3 Q And they were actually quite knowledgeable about Western
4 Processing?

5 A I would assume so, yeah. Whatever information, the
6 primary thrust behind what we were doing was getting
7 quotations for price.

8 Q Right. Quotations for price?

9 A Yes.

10 Q It necessitated knowing a little bit about the bidders,
11 didn't it?

12 A Yes.

13 Q And in your study and in looking into information about
14 the bidders, they told you this about Western Processing,
15 didn't they?

16 A Yes. This was not secret things. It was quite well
17 known. It had been in the papers and so forth.

18 Q It was quite well known that Western Processing had
19 polluted?

20 A Yes. I think it was in the local valley papers.

21 Q Certainly. Now, when they told you this, or when you guys
22 were putting the final report together, neither Mr. Donaldson
23 nor Mr. Sargent stood up and said, "I don't think you'd better
24 put that in the report because that's not true"?

25 A No. It was true. It was there.

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1 Q Okay. And the pollution that they're talking about here
2 is that pollution that you were aware of in the earlier time
3 period.

4 A It's the same one, whatever it was. To this day I don't
5 know what it was all about.

6 Q Okay. Now, as I understand it, the fact that certain
7 members of the task force, that is, Mr. Sargent and Mr.
8 Donaldson, were aware that Western Processing had polluted and
9 continued to be a pollution risk, that was not a primary
10 concern, was it?

11 A Not at this moment in time, no.

12 Q The primary concerns were money, number one, and
13 availability of a place to take Boeing's material. That's
14 right, isn't it?

15 A That's correct.

16 Q Ms. Scollard, would you please hand the witness Exhibit A-
17 2982?

18 Do you have that before you, sir?

19 A Yes, sir.

20 Q And do you see on the front cover of that it says Liquid
21 and Solid Waste and Explodeable Resources?

22 A That's what it says, yes.

23 Q This is one of the reports that you had an opportunity to
24 review when you were putting together your anthology or your
25 research and review of the Boeing Company's disposal

1 practices. Correct?

2 A In time frame I believe this followed my report, sir. If
3 this is the Clyde Shepherd Report?

4 Q I believe it has been termed that, yes.

5 A I think this was after my report, but I wouldn't want to
6 swear to that. I'm reasonably certain that it was.

7 Q What's the basis for that, sir, for your being certain or
8 reasonably certain?

9 A Well, because some of the things that he had in here came
10 directly out of my 1977 report, I believe, word for word and
11 page for page.

12 Q And focusing your attention on page 20089311, in the lower
13 right-hand corner, do you have that page before you, sir?

14 A Yes, sir.

15 Q And it states, Liquid Waste - Current Situation. That
16 would mean Western Processing. Correct?

17 A Yes.

18 MR. GORDON: Your Honor, I object for lack of
19 foundation. If they're examining this witness on a document
20 that they didn't even offer, how should he interpret it?

21 MR. FORSBERG: May I respond?

22 THE COURT: Yes.

23 MR. FORSBERG: I need to know whether or not he
24 was aware of this at the time period, these very same factors.

25 THE COURT: You can rephrase the question.

1 Q (by Mr. Forsberg) Were you aware, where this says Liquid
2 Waste - Current Situation, that they were talking about
3 Western Processing?

4 A Yes. This was the only site that we had at the time for
5 inorganic materials. We took our organic, solvents and the
6 like, to a different concern. Chempro.

7 Q To Chempro?

8 A Yes.

9 Q Now, under the bullet where it states, "Not in compliance
10 with most governmental regulations," you were aware of that
11 also during this time period?

12 A Well, this report, sir, is -- that's what it says here. I
13 did not -- I didn't prepare this. If that is so, whoever
14 wrote it, that was what he put down. There was, again, that
15 one time, so far as I knew, pollution problem. Whether he was
16 in compliance with everything else or not, I don't know. The
17 state was monitoring him; not myself.

18 Q Certainly. My question is really much easier than that.
19 This is not one of the portions that was taken out of your
20 report, then, is it?

21 A I guess not, no.

22 Q Farther down it states, "Likelihood of bad press, adverse
23 public image." That's a portion that could have come from
24 your report, wouldn't you say?

25 A Yes. It was, in general, what -- the Boeing Company has

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1 always been concerned with press, you know. It's a big
2 company and it makes headlines if somebody is injured or there
3 is obnoxious fumes, or whatever. Oh, yes, we were concerned
4 about press in general.

5 A Mr. Carlson, my question was, that could have come from
6 your report?

7 A It could have, yes.

8 Q Not is the Boeing Company worried about press.

9 A No.

10 Q And it would be a lot easier here this morning if you'd
11 just answer the questions that I ask you.

12 A Yes, sir.

13 Q Now, underneath "can be identified as potentially a Boeing
14 operation," did that come from your report?

15 A No, sir.

16 Q And "frequent confrontations with government officials,"
17 did that come from your report?

18 A No, sir.

19 Q Okay. I don't have any other questions regarding that
20 document, sir.

21 A-2182, please.

22 Do you have that before you, sir?

23 A Yes, sir.

24 Q Okay. Now, I understand that this report came out in June
25 1977 and that this was prepared by yourself.

1 A Yes, sir.

2 Q And in your deposition I think we lovingly referred to
3 this as the opus.

4 A Yes.

5 Q This is the report that you worked on for BECE when you
6 were reviewing the history of the Boeing Company's disposal
7 practices.

8 A At the request of a division in Boeing, Surplus Materials.

9 Q The SSD, Seattle Surplus Division?

10 A Yes.

11 Q Now, could you please turn to page 20039725?

12 A What were the last numbers there again, sir?

13 Q 725.

14 A 725. Yes, sir.

15 Q Now at the top of this page it states Resource Recovery
16 Study?

17 A Yes, sir.

18 Q Risk Evaluation, Disposal Contractors.

19 A Yes.

20 Q Now, this is a portion of a report that you prepared,
21 isn't it?

22 A Yes.

23 Q And under the topic "Liquids," it states, "Existing sole
24 source agent." That was Western Processing?

25 A Yes, sir.

1510

1 Q ". . . may be shut down or go out of business." Correct?

2 A That's correct.

3 Q Now, shut down meant DOE was going to come in and shut
4 them down --

5 A Yes.

6 Q -- or out of business meant he would go out of business on
7 his own?

8 A Yes.

9 Q Under the No. 2 bullet -- I'm sorry. Under the No. 3
10 bullet it states, "Bad press" condition already exists from
11 city of Kent on this agent's activities.

12 That would be a bad press situation from the
13 pollution that had occurred at Western Processing?

14 A Yes. Whatever it said in the local paper there.

15 Q Now, No. 2 bullet states, "Extent of area ground and water
16 pollution from above agent could involve Boeing in damage
17 suit."

18 You came up with this on your own based on the
19 information from Sargent and Donaldson. Correct?

20 A That is correct. Anything that happened out at Western
21 Processing could very well involve the Boeing Company.

22 Q In a damage suit?

23 A Yes.

24 Q Because the Boeing Company took their wastes out there.

25 A Yes.

1511

1 Q And dumped them at the site.

2 A They took them there, yes.

3 Q And you were just letting the people know above you that
4 this is what could happen?

5 A Yes.

6 Q Okay. I don't have any other questions with regard to
7 that report.

8 My understanding is, sir, that you recall that Mr.
9 Nieuwenhuis received periodic increases in the contract that
10 he had with the Boeing Company. That's right, isn't it?

11 A Yes, sir.

12 Q Now, Mr. Gordon asked you whether or not you were aware
13 that those were for improvements at the site; is that right?

14 A In one case I was aware of the fact that it had some
15 problems again with the state, and that he said he needed to
16 make some improvements, is what I was told, and that therefore
17 we were going to increase the fees. Sargent was going to work
18 with him and establish a new fee schedule.

19 Q You talked about one case. You were aware of many times
20 it happened.

21 A Yes. Mr. Nieuwenhuis at times said he wasn't making any
22 money and he would just go out of business unless he could
23 make some more money, so Boeing adjusted his fees.

24 Q Your understanding was that these fee increases were not
25 to improve the site but in fact if they could keep the doors

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1 open for Boeing to the site, they could haul their waste
2 there. Is that right?

3 A Well, that's true.

4 Q You were one of the people who helped construct or worked
5 on constructing the Auburn waste treatment plant?

6 A Oh, yes.

7 Q And the Auburn waste treatment plant had a large, about a
8 little more than half a million gallon lagoon, didn't it?

9 A Yes.

10 Q 530,000 gallons. Correct?

11 A Yes, sir.

12 Q Now, that lagoon was outside, just outside the waste
13 treatment plant itself on the Boeing grounds?

14 A Yes.

15 Q When you built that lagoon there was quite a bit of
16 preparation that went into it prior to putting the lagoon in.

17 A Yes.

18 Q You excavated the ground, you put sand down, and then
19 inside the sand you put approximately two inches of blacktop
20 surfacing?

21 A Yes.

22 Q Now, my understanding is that that lagoon was only for
23 rinse wastes. That's right, isn't it?

24 A Not the concentrated wastes that you sent to Western
25 Processing.

1 A That's correct.

2 Q Now, Western Processing's lagoons, on the other hand, were
3 excavated as well, below ground, and then there was a tarp
4 inside in some cases, and in other cases they were just
5 unlined pits; is that right?

6 A There were liners in the pits that I saw on the occasions
7 that I went down there.

8 Q You were aware, however, that there were unlined pits that
9 Boeing material --

10 A No, sir, at that time I was not. I never went and saw
11 those.

12 Q You did not see the unlined pits?

13 A No, sir.

14 Q So concentrated wastes are going into pits at Western
15 Processing and rinse wastes are going into this lagoon as
16 we've described it for the jury?

17 A Yes.

18 MR. FORSBERG: This is from A-93 and I believe it
19 has been admitted.

20 May I approach the easel, Your Honor.

21 THE COURT: Yes.

22 Q Are you able to see this, Mr. Carlson?

23 A Oh, yes.

24 Q You can see it?

25 A Yes. I am quite familiar with it.

1514

1 Q Now, this is the Auburn industrial waste treatment plant
2 lagoon, isn't it?

3 A As it was. It's gone now.

4 Q It's gone now. Okay. Now, here we can see the berms on
5 the sides. About how deep was this?

6 A Oh, it was shallower at one end. It was deep at the end
7 where you see it close up there and shallow at the far end.
8 The pumps were right where that walk was.

9 Q This was above ground construction?

10 A Oh, yes, that was.

11 Q And the reason for above ground construction is so that
12 you don't have any problems with the ground water coming up
13 underneath and rupturing it; is that correct?

14 A That's true.

15 Q So above ground construction is better than below ground
16 construction.

17 A This was also below ground at some points there.

18 Q If you have ground water problems it's not a good idea to
19 have below ground construction, is it?

20 A That's right.

21 Q And you were aware of that when you went to Western
22 Processing, weren't you?

23 A No, sir.

24 Q No. You were aware that that's not a good idea when you
25 went there; not whether or not they were doing that.

1515

1 A When I went there I saw the pit with the liner. I never
2 even gave it a moment's thought.

3 Q Okay. Now, here we can see -- this doesn't look like
4 blacktop. My understanding is that after you put in the
5 blacktop in this rinse waste lagoon, you put in a material
6 called Bomat; is that correct?

7 A That's correct.

8 Q And that's a Boeing product.

9 A Yes, sir. It's fibreglas.

10 Q Fibreglas like.

11 A Yes.

12 Q And it was used for a runway material - correct? - for
13 airplanes to actually land on it?

14 A Well, that's what Boeing was trying to sell, yes. A
15 machine and the materials to make quick airfields.

16 Q Now, my understanding is that you put that into this
17 lagoon because you thought the two inches of blacktop for
18 these rinse wastes, you needed more containment? Is that
19 right?

20 A I put it in because it gave added protection and it was
21 available. The Boeing Company had it and didn't know what to
22 do with it. I said bring it down and we'll put it in the
23 lagoon.

24 Q Boeing had it and didn't know what to do with it. Did you
25 ever offer any to Western Processing when you were sending

1516

1 your concentrated wastes?

2 Q I was only aware that they were trying to sell this, and I
3 was not in a position to sell it.

4 Q I don't have any more questions on this report. Thank
5 you, sir.

6 My understanding is that the Boeing Company used
7 acides in the different processes that they had?

8 A Yes, sir.

9 Q These acids, when they would become contaminated, then,
10 were shipped to Western Processing for disposal?

11 A Yes, sir.

12 Q Now, these acids would become contaminated with metal
13 particles; is that correct?

14 A In general, yes.

15 Q And the only acids that you sent to Western Processing
16 were contaminated with mets. Correct?

17 A Yes, sir.

18 Q And that's why they were sent to Western Processing,
19 because they were contaminated?

20 A Well, they no longer functioned within the tolerances of
21 the parameters of the specifications.

22 Q They were saturated with metals.

23 A No, they were not saturated. You can put a -- dissolve an
24 infinite amount of copper in the pit. They were above what
25 was permitted in the specs.

1517

1 Q I'm not using it as a term of art. What I'm saying is
2 they had too much metal in them for you to be able to utilize
3 them for your processes?

4 A That is correct.

5 Q And that's why they were sent off?

6 A Yes.

7 MR. FORSBERG: Okay. I don't have any other
8 questions at this time.

9

10 CROSS-EXAMINATION

11 BY MR. ISRAEL:

12 Q Hello, Mr. Carlson.

13 A Good morning, sir.

14 Q I understand, sir, that you had an opportunity in your
15 service with the Boeing Company to go to Queen City Farms in
16 Maple Valley on one occasion.

17 A Yes, sir.

18 Q And when you went there, you went there just out of
19 curiosity?

20 A Yes, sir.

21 Q Just to see where Boeing was taking its concentrated
22 wastes?

23 A That's true.

24 Q And when you went there you saw the Boeing was just
25 discharging its waste into ponds?

1 A Yes, sir.

2 Q And from the standpoint of a Boeing employee and a
3 chemical engineer, your reason for going there was to
4 determine what kind of capacity was there for Boeing wastes?

5 A No, sir. Not at that time. That is incorrect.

6 Q At any rate, how Boeing was disposing of its wastes or the
7 procedures being utilized, if any, by the disposal facilities
8 was not an area of your responsibility?

9 A That is correct.

10 Q There were other people at the Boeing Company that you
11 felt were charged with that responsibility?

12 A Yes, sir, that negotiated the contracts.

13 Q Now your first visit to Western Processing was, I think
14 you said 1967, '68 or '69.

15 A Along in that time frame.

16 Q Okay. Do you remember on what occasion it was that you
17 went down to Western Processing during that time frame?

18 A Yes, sir. One of the big tanks that we had in the 1705
19 Building, which was a 50-foot tank, eight foot wide, again
20 about twelve feet deep, ruptured, and we had a chromic acid
21 pickle with this tank, and it went into the pits that we had
22 that all these tanks were put in. It's a very large amount of
23 acid, about 50,000 gallons, concentrated, and that of course,
24 if left there for any length of time, would chew the concrete.
25 It would go through eight inches of concrete in a matter of

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1 six or eight hours. So we had to really move to get this
2 removed, rinsed, everything rinsed, and neutralized.

3 At that time we were contracting out the removal
4 of these materials so far as transportation to Western
5 Processing was concerned. So quite a few truckloads left for
6 Western Processing. I of course was informed that this
7 rupture had occurred, and action had to be taken to fix the
8 tank.

9 I went down and I observed all these trucks
10 leaving. I was concerned since I had never been to Western
11 Processing. In fact, didn't even know where it was. Did he
12 have capacity to take all these materials that were coming out
13 at one time, large amounts of chromic acid. So, with
14 somebody, and I do not remember who, I went down there to see
15 what capacity existed at Western Processing. It was my first
16 trip down there.

17 Q Okay. And you went down there on that occasion and saw
18 the materials being handled at Western Processing?

19 A Yes, sir.

20 Q And then you went back to the Auburn -- this tank rupture
21 was at the Auburn facility; is that right?

22 A Yes.

23 Q And then you went back to the Auburn facility, and by the
24 way, more than the gallonage that spilled was hauled to
25 Western Processing?

1520

1 A Oh, yes, because we rinsed everything. I don't know now,
2 it might have been a hundred thousand gallons we took down
3 there.

4 Q Okay. If Mr. Nieuwenhuis has testified by deposition in
5 this court that it was about 125,000 gallons, you wouldn't
6 quarrel with that?

7 A No.

8 Q This was an emergency situation that had to be taken care
9 of and cleaned up right away over the weekend.

10 A Well, yes. We didn't want to damage any equipment and shut
11 the manufacturing operation down.

12 Q You came back to Auburn and then you began to think about,
13 "Oh, my goodness! What if this happens again"?

14 A Yes, sir.

15 Q So you returned to Western Processing?

16 A Yes, sir.

17 Q And you made a more extensive tour of the facility to see
18 how big it was and what might be there.

19 A No, sir. I went down to look at the exact same ponds that
20 I had observed before to see how Mr. Nieuwenhuis was doing
21 with the materials we had taken down there. One of the pits
22 that was full was pretty near empty at that time. He came out
23 from his office and we stood there and talked. I asked him
24 what had happened. He said he had reacted the material. I
25 said "Oh, fine," because I was concerned that if another

1 rupture occurred, either at Auburn or some place else, we
2 might again run out of capability.

3 Q Do you recall where on the property you recall these
4 materials being dumped?

5 A It's as you went in the property through the gate, perhaps
6 a hundred yards, maybe a little more, on the right-hand side,
7 there was, I believe, three or four pits with liners in them.

8 Q Okay. And that's all you saw?

9 A That's all I saw.

10 Q Now, you were aware -- did you go to Western Processing
11 again after that?

12 A Only when we were at the point in the evaluation and going
13 out for bids, I went back there at that point in time.

14 Q At any time, sir, during your limited contact with Western
15 Processing, were you ever aware that there were unlined pits
16 at Western Processing?

17 A No, sir.

18 Q Did you ever see the south pond?

19 A Not that I recall, sir. I did go to the south end once,
20 and I have so stated.

21 Q Right.

22 A And that was the second visit. Mr. Nieuwenhuis said,
23 after I observed this one pit had been emptied, he said I
24 would like to show you my cyanide destruction system.

25 Q As a chemical engineer, sir, if materials such as the

1 spill at Auburn were in fact disposed of in unlined
2 excavations, would that present an obviously clear and visible
3 threat to the environment?

4 A Yes. I would say that it would.

5 Q You certainly wouldn't want to just dump that stuff into
6 unlined pits, would you?

7 A No.

8 Q And the reason is that the danger exists of contaminating
9 the ground and the ground water.

10 A Yes, sir.

11 Q You were familiar with the Kent Valley, were you not?

12 A Yes, sir.

13 Q In terms of how high the water table was.

14 A There was a high water table at the Boeing Auburn plant.
15 I was unaware of where the water table was in the Kent
16 vicinity.

17 Q As a matter of fact, you're aware, sir, of a Boeing report
18 that indicates that there's an ocean of water under the Auburn
19 plant.

20 A Yes, sir.

21 Q Now, you were aware, sir, were you not, that when Boeing
22 was taking its wastes to Queen City Farms, they were not
23 treating them in any way.

24 A That's correct.

25 Q And to the best of your knowledge, the wastes disposed at

1523

1 Western Processing were taken out there in the manner in which
2 they left the Boeing Company without being first treated or
3 neutralized in any way.

4 A From the Boeing Company?

5 Q Yes.

6 A That's correct. We did not treat those materials.

7 Q Now, you would agree, you saw earlier on in your
8 testimony, sir, a report called the Daily Report which is one
9 of those you received from Mr. Sargent at the time you were
10 preparing your major study?

11 A Yes, sir.

12 Q Do you recall that, sir?

13 A Yes, sir.

14 Q And would you agree with the conclusion of the Daily
15 Report that if you're going to dispose of toxic chemical
16 wastes into the ground that before you do so, specific
17 selection and site recommendation is necessary?

18 A If this were to be done, that would be required. That is
19 correct.

20 Q Right. And there might be some places in the world where
21 we wouldn't have a worry from not doing site selection.

22 A That's correct.

23 Q Like out in the middle of the desert where there is no
24 rainfall and no water and ground water is probably non-
25 existent or way down.

1 A Yes.

2 Q Or you place these rock impervious, that sort of place?

3 A Yes, sir.

4 Q But other than that, the standard type of selection from a
5 chemical engineering standpoint would be -- would involve
6 certain hydrological studies, studies of where the ground
7 water is, where it might be going and how much there is of it.

8 MR. GORDON: I'm going to object at this point,
9 Your Honor. Irrelevant and beyond the scope of the direct
10 examination.

11 THE COURT: Overruled.

12 A If a facility were to be built where the possibility of
13 this occurring existed, one would certainly want to know where
14 the water table was, in what direction, and where it might go.
15 Yes.

16 Q (by Mr. Israel) And one of the ways to determine that and
17 protect yourself against having missed something or gone wrong
18 would be to put down test wells so you could see if the
19 material you were disposing of into the ground would migrate.

20 A Yes, sir.

21 Q And that was certainly understood back in the 1950's when
22 the Daily Report was written.

23 A Oh, I believe it would be, yes.

24 Q Now, you, sir, as an employee of Boeing Company, had an
25 opportunity to travel to other Boeing plants other than those

1 in the Pacific Northwest, have you not?

2 A Yes, sir.

3 Q And on one occasion you had an opportunity to visit the
4 Wichita waste treatment facility.

5 A Yes, sir.

6 Q And you've described that previously as a good clean
7 operation.

8 A They had an operation down there, yes, sir.

9 Q And they were essentially treating the same types of waste
10 as were being treated at Western Processing.

11 A In general, yes.

12 Q And as a chemical engineer, do you have any knowledge as
13 to whether or not there would have been anything preventing
14 the creation of a plant of that nature in the Pacific
15 Northwest to handle Boeing's wastes?

16 A No, that could have been done.

17 Q It would have cost money, however?

18 A Oh, yes.

19 Q Did you know a Mr. Maybee, sir?

20 A Yes. Walter Maybee?

21 Q Yes.

22 A Yes, sir.

23 Q Did you have occasion to work with him?

24 A Oh, at times but not very much.

25 Q In any event, you considered him a competent engineer?

1 A Yes, sir.

2 Q Now, sir, there have been -- we have discussed several
3 recommendations that arose early on both at the time the
4 Auburn facility was being built and later on as to the
5 possibility of upgrading Auburn to treat more concentrated
6 wastes, in addition to the rinse waste that it was originally
7 designed for. You're aware of that, aren't you?

8 A Yes.

9 Q And you, sir, served on just about every report or
10 participated in putting information in just about every report
11 issued by Boeing until your retirement except the Daily
12 Report.

13 A I believe there was one other one there, very early, that
14 I had nothing to do with.

15 Q Okay. And one of the things that you wanted to bring home
16 to management and the people you were working with on these
17 committees about the idea of upgrading Auburn was that if you
18 were going to do it, you had to do it right; isn't that
19 correct?

20 A Yes, sir.

21 Q And you wanted to bring home to management your
22 understanding that if Auburn was going to be upgraded to treat
23 these concentrated chemical wastes from all the facilities in
24 the Pacific Northwest from Boeing, that a proper commitment in
25 materiel, facilities, operator training, would have to be a

1 decision of management going in.

2 A Yes, sir.

3 Q And that that was going to cost money.

4 A Pardon?

5 Q And that that was going to cost money.

6 A Oh, yes.

7 Q And you made that known in the reports that you
8 communicated and in the committees that you worked on.

9 A Yes, sir.

10 Q And you did not want, am I correct, sir, you did not want
11 the people who were making the decisions think that they could
12 treat this thing as some place just to dump the wastes. They
13 were going to have to treat it as a chemical treatment plant
14 that had adequate staffing, adequate commitment, adequate
15 management, adequate facilities.

16 A That's a very long question, but in general, yes.

17 Q As a matter of fact, in connection with operating the
18 Auburn plant, you prepared or had prepared a brochure, a
19 training brochure, for the employees with regard to what to do
20 in the event of spills and how to handle them and make certain
21 that they didn't enter the waters and the ground and the
22 waterways; isn't that correct, sir?

23 A Such a report was prepared. It was Mr. Frank Holman who
24 actually did the work.

25 Q And that's the way Boeing handled these types of wastes on

1 their own property?

2 A We were attempting to make everybody at the Auburn plant
3 aware of what good practices were and what to do in the event
4 there was a spill of some kind.

5 Q In your opinion, sir, was the visit that you made to Queen
6 City Farms, did that leave you with the impression that that
7 was an unsatisfactory method of disposal, as a chemical
8 engineer?

9 A I was kind of curious, sir, as to what was going to be
10 done with the materials that were ponded, but this was not an
11 area, again, or responsibility of mine, so I took no -- there
12 was no action I could take relative to that.

13 Q You would agree, sir, as a chemical engineer, would you
14 not, though, that technology existed well before 1950 to treat
15 Boeing waste at a non-toxic level.

16 A Yes, sir.

17 Q And it's basically a question of economics.

18 A Yes, sir.

19 Q And by treating them to a non-toxic level, we can avoid
20 pollution?

21 A No, sir. That is a statement that I would take exception
22 to. You can treat them to make them non-toxic but you would
23 still have the materials but in a different form. They would
24 no longer be toxic.

25 Q Sir, sometime in the early 1980's you were asked, were you

1 not, prior to Boeing being involved in the cleanup of Western
2 Processing and Queen City Farms, to make an estimate of what
3 it would cost to go out and clean those places up.

4 A Yes, sir.

5 Q And you did that before Boeing ever obligated itself to
6 pay anything, did you not?

7 MR. GORDON: Objection. That's totally
8 irrelevant at this point. This happened in 1984.

9 THE COURT: Overruled.

10 Q (by Mr. Israel) And that was in 1981 or 1982?

11 A Oh, I believe it was later than that, sir, but in that
12 general time frame. I was still in BECE until 1982. I
13 retired in '84. I made this estimate so it would have been
14 after -- during the '82 or '83 or '84.

15 Q If you stated at your deposition '81 or '82, would --

16 A No, that's as close as my memory is, sir.

17 MR. ISRAEL: I have nothing further. Thank you,
18 sir.

19 THE COURT: Redirect?

20 MR. GORDON: Yes, Your Honor.

21

22 REDIRECT EXAMINATION

23 BY MR. GORDON:

24 Q Mr. Carlson, Mr. Forsberg asked you some questions about
25 general process changes to reduce chromic acid, for example.

1530

1 Do you remember that testimony?

2 A Yes, sir.

3 Q Were you inferring by your report that you could eliminate
4 chromic acid from the manufacture of Boeing aircraft?

5 A No, sir.

6 Q Would you want to fly in an aircraft that hadn't had any
7 chromic acid used in the manufacture of any of its parts?

8 A Well, maybe when it first came out but not very long after
9 that, I wouldn't want to fly in it.

10 Q Why is that, sir?

11 A Corrosion would have set in. It would have been -- it
12 would be unsafe.

13 Q Could you tell me on this same general subject, in terms
14 of the manufacturing process of an aircraft, the subject being
15 changing the various processes and chemicals being utilized,
16 was that an ongoing process throughout the time you were at
17 Boeing?

18 A Yes. There were changes made in some particular areas
19 where practices were modified or changed. There weren't very
20 many because the technology of doing this existed prior to my
21 coming to Boeing, it's been around for many years and
22 essentially has not changed even today.

23 Q Okay. How about the subject of regeneration? What does
24 regeneration mean?

25 A Again, in the tanks where we were running these processes,

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1 they became contaminated, and as I have stated and as we were
2 discussing these things, about metals getting in. If you put
3 aluminum into an anodizing solution, for example, in the
4 process of putting on the coat, some aluminum would dissolve
5 in the bath and so you had aluminum ions soluble dissolved in
6 the bath. Also the alloys, including copper and silicon by
7 and large.

8 Now, as these built up in the bath over a period
9 of time, eventually you got the point where you would not
10 produce a good satisfactory anodic coating to protect the
11 part. And you had a choice then of either discarding the
12 bath, taking it to Western Processing, or regenerating it,
13 taking out the metals that were in it so that you can prolong
14 its use. This is what we did. We regenerated continuously by
15 the means of ion exchange resins which took out the metal. We
16 never dumped anodizing baths, and Plant II did not have that
17 installation at their facility, so they would bring their
18 tankloads of this anodic anodizing solution down and exchange
19 it with us. They'd dump it in our tanks and take out some of
20 the stuff that we were using because they could use it and we
21 would then have to purify their materials.

22 Q What was the end result?

23 A The end result is that you don't have to destroy the
24 material and you prolong its use.

25 Q How about electrodialysis? What's that?

1532

1 A Electrodialysis is a process essentially accomplishing the
2 same thing. You attract by a membrane process certain ions to
3 a cathode and you remove them from solution around the
4 cathode, and it a way, another way of prolonging the life of
5 certain baths, not necessarily just anodizing solutions, but
6 deoxidizing solutions, pickles, and the like, with exactly the
7 same formulation.

8 Q Do you use dialysis in your processes?

9 A No. Manufacturing does, manufacturing research. They
10 came down and they said we would like to put in an
11 experimental electrodialysis system in one of the tanks, and
12 they operated it off and on for, I don't know, about six
13 months, as I recall, and they issued a report based on what
14 they found. They found they could prolong the life of a bath.

15 Q And did you implement it any further than that?

16 A No.

17 Q Why not?

18 A I was already doing it with ion exchange.

19 Q Did you treat cyanide at Auburn?

20 A Yes, sir.

21 Q How did you so treat it?

22 A With chlorine and caustics.

23 Q And did you understand that at Wichita they were treating
24 with ozone at one point in time?

25 A That is correct. On my first trip they told me they had

1 put in an ozone treatment.

2 Q Why can't you utilize that at Auburn?

3 A At Auburn, I had been down to Tetronics. We were using
4 ozone down there for taking care of cyanide, and it was
5 sitting there, unused. The process of making ozone means
6 passing a high voltage current, an arc, if you will, like
7 lightening, through oxygen, and the oxygen then combines with
8 itself and makes ozone. It's a very inefficient process. The
9 equipment doesn't operate very exactly. To destroy a pound
10 of cyanide with ozone, in terms of electrical power, failure
11 of the equipment, the maintenance, is pretty expensive
12 compared to buying your materials and injecting them into a
13 cyanide solution. It is much easier to handle, and more
14 reliable, especially if you're destroying something in a
15 continuous theme like at Auburn, the rinse waters. The ozone
16 system, if it broke down, we wouldn't have any material there
17 as a backup. So I knew at that point, when I went to Wichita,
18 that the ozone system would not be satisfactory. They had it.
19 It was put in by an AE who recommended it. I know that today
20 they are not using ozone. I do not remember, I do not know
21 how long they used the ozone system, but I suspect it wasn't
22 very long before they found out it was not workable.

23 Q Switching subject matter, Mr. Carlson, in your examination
24 by Mr. Forsberg about the 1970 joint task force report, the
25 one headed by Dr. Ricca.

1 A Yes.

2 Q Did you author any part of that report?

3 A No, sir. I was asked for input to the report in terms of
4 what did we have at Auburn. We gave them all the flow sheets
5 we had, the schematics, the diagrams, information on what the
6 injectors could handle, et cetera. I believe we made cost
7 estimates for him on what it would take if we were to add a
8 capability of some kind to treat complicated materials in the
9 Auburn waste treatment plant.

10 Q When is the first time you saw that report, if you recall?

11 A Well, I don't recall really having seen it until in 1977
12 when I went and got the information. It may have come in
13 before then but I don't think so.

14 Q You had seen a draft of it?

15 A No, sir.

16 Q Now, Mr. Forsberg asked you about the big report you did
17 in 1977 on Western Processing to the extent of area, ground,
18 water pollution and how it could involve Boeing in a suit.
19 Would that have been the same with Chempro?

20 A Oh, yes. It would have been the same with any one of the
21 contractors we used. I think Chempro at one time, they were
22 the ones that processed our organic waste. They were involved
23 at one time in a fire, and the fire department came down and
24 inspected them and said, hey, you guys may have a big fight
25 over exposure. Boeing was real concerned, because should a

1 fire occur, Boeing might get involved in some kind of a
2 lawsuit. So it's not just Western Processing.

3 Q I think Mr. Forsberg talked about the '77 report that you
4 authored, Mr. Carlson. Do you recall that?

5 A Yes, sir.

6 Q That report was prepared when, sir?

7 A 1977.

8 Q Would you hand the witness Exhibit A-2152, please. I
9 think I've got a blowup, or part of one anyway.

10 Your Honor, would it be okay if I came around the
11 corner there?

12 THE COURT: Yes.

13 Q Do you have A-2152 in front of you, Mr. Carlson?

14 A 21 which?

15 Q 2152. Is it marked there on the front, the front page?

16 A Oh, yeah, the whole document. Yes, sir.

17 Q And are we looking at the same page?

18 A Well, when I find it.

19 Q The one that's got your signature on it.

20 A Oh, the first page. Yes, sir.

21 Q I'm sorry. That's your signature, I take it?

22 A Yes, sir.

23 Q And the date that this was finalized was when?

24 A It says June 1977.

25 Q Was that before or after the Boeing Company had changed

1 its waste disposal contract to Chempro?

2 A It was during the same period of time, sir. I'm -- I
3 really don't remember. But it all came together. We were
4 doing this report when we were also going out for bids on the
5 waste treatment thing, disposal.

6 Q Would you go to the next page? I think it's the next
7 page, Introduction, I've got here. It would 615. Do you have
8 that page, Mr. Carlson?

9 A Yes, sir.

10 Q Would you tell the jury what had led up to this report
11 being prepared by you in the late '76 or '77 time frame?

12 A Yes, sir. Well, I receive a call from King Dunham who was
13 heading up Boeing's Surplus Operations, and by definition,
14 anything that Boeing didn't use any more was surplus, and it
15 fell under his jurisdiction to sell or dispose of materials
16 that were surplus in the Boeing Company. And he said come on
17 over. I've got something I want to talk about. Okay. So I
18 went over and he said, well, I have suddenly become aware that
19 all of the materials that are liquid wastes that we take to
20 Western Processing are really surplus to the Boeing Company.
21 We don't need them any more, and therefore they may well fall
22 under my jurisdiction. I think that I am going to take over
23 this operation entirely. It's been fragmented, and he said it
24 really should be handled by our people. And as a result,
25 then, he came around at some point in time here and said, I

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1 think that these things are out of control and will you make a
2 study for me of what we can do.

3 Q What was considered out of control?

4 A Costs.

5 Q I want to go to the next page. Counsel, I'm skipping to
6 618. When I say 618, Mr. Carlson, at the bottom of each page
7 there is the last three digits.

8 A Yes, sir.

9 Q Have you got that? Objectives?

10 A Yes.

11 Q What was the objective of your study?

12 A It says right at the top, sir, the objective of the study
13 was to save money.

14 Q Can you tell the jury, going to 2.0, how you were able to
15 achieve that?

16 A We looked at a vast -- to me at that time, every operation
17 that Boeing was doing -- in depth to find out what could be
18 done to reduce costs, and this included a whole variety of
19 things that are included in this report.

20 Q Can you give me a for instance?

21 A Oh, for instance, we found out that apparently there was a
22 difference between what Boeing said they were going to send
23 up. The chem lab would come along and say dump this solution,
24 and that was what was going to Western Processing, and we
25 knew, they knew how many gallons were in the tanks. Now, we

1 would take all that material plus some rinse water, generally
2 10 per cent to rinse out the tanks, and we would ship it.
3 Well, there was a discrepancy between what the chem lab's
4 disposal or dump order was and what our over the road trucker
5 said he had hauled and what Western Processing said he
6 received and what our billing department paid. There was no
7 tie-in, and we were paying a lot more money than we needed to
8 pay for the materials that were being disposed.

9 Q Now, in paragraph 2.0 it talks about a cost reduction
10 because of suspended bids. What was that?

11 A That was when we went out to get bids at that time, again
12 from Western Processing, which was a known organization, been
13 in business, was still in business even though they had had
14 some problems, and two new companies that were entering the
15 market and becoming available to the Boeing Company as a
16 source for disposing of concentrated materials.

17 Q And let me ask you about paragraph 3.2. It talks about
18 competitive bids. That's what we're just discussing.

19 A Yes, sir.

20 Q And then it goes on to talk about other savings. Could
21 you identify those for the jury, what you're talking about.

22 A Just in general?

23 Q Yes.

24 A Oh, again, all these materials. I just gave you one
25 example. There's another one right here.

1 Q Still in the Introduction it talks about research and
2 extending the life of chemical solutions. Had that been done
3 in the past?

4 A Yes, sir. We, for instance, on alternative disposal
5 schemes, when I went up to Bellingham, they manufacture pulp,
6 and in the process of making pulp and making paper, they
7 bleach the pulp so the paper becomes white, and they were
8 doing that with an oxidizing material. And in discussing it
9 with them, we determined that, well, they could use our
10 deoxidizer to do this bleaching operation. So Boeing had an
11 advantage in that we didn't have to take a trip to Western
12 Processing, and we could save this over the road trucking
13 between Auburn or other Boeing plants, and Bellingham. The
14 pulp mill didn't have to go buy bleaching materials. They
15 could use these materials to do the bleaching. So it was a
16 mutually beneficial thing in many ways. It was just a way of
17 conserving and making better use of what we had

18 Q Could you go to 621, please? It would be the last three
19 digits.

20 A Yes, sir.

21 Q I think you talked about this with Mr. Forsberg, the
22 history that you prepared in 1977, looking backwards?

23 A Yes, sir.

24 Q Okay. Now, in paragraph 1.1 it says prior to April of
25 '58, Boeing disposed of its concentrated liquid wastes in a

1 series of unsatisfactory methods, starting with dumping into
2 pits in the south yard of Plant II, progressing to dumping at
3 barges along with Montesano Chemical Waste, and finally on
4 some scrub land in the Maple Valley.

5 Was this comment made fromt he standpoint of was
6 known in 1977 looking backwards?

7 A Yes, sir.

8 Q Now, Maple Valley would be Queen City Farms?

9 A Yes, sir.

10 Q Then it talks about -- goes on to talk about Western
11 Processing, and I want to point out one comment. Since it was
12 the only licensed disposer in the state, was that your
13 understanding at all times when the company was utilizing
14 Western Processing --

15 MR. FORSBERG: Leading, Your Honor.

16 Q What was your understanding concerning the licensing of
17 Western Processing during the time Boeing was utilizing the
18 sites?

19 A He was an approved disposal site, an approved disposal
20 site for the disposal of these types of materials, not only
21 for Boeing but for the other chemical plating people in the
22 area.

23 Q Now, paragraph 1.2 points out something occurred in '76.
24 What was that?

25 A In the first part, the first statement there, we're

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1 talking about Chempro, who wanted to take our wastes and
2 solvents and treat them. The second paragraph says that these
3 liquid wastes were taken to them and continued to be disposed
4 of to them. In 1976 a new firm, Chem Nuclear, which is in the
5 disposal business, was approved in the state of Oregon to
6 accept liquid wastes near Arlington, and that Chempro about
7 the same time had obtained a license to dispose of wastes in
8 Tacoma, Washington.

9 Q Are those the two other firms from whom -- from which bids
10 were solicited?

11 A Yes, sir.

12 Q Now, then your history goes to a different subject and
13 that's pollution control at a national level. Why did you put
14 this information in there?

15 MR. SCHOEGL: Scope, Your Honor.

16 THE COURT: Overruled.

17 A The Clean Air and Clean Water Acts were enacted in the
18 early seventies.

19 Q Go to the next page if you want to.

20 A And this created a big change in the way industry would
21 have to treat and handle their wastes, and my intent here, in
22 taking on this work, was to show that this would create some
23 big changes. These changes are still going on today. So the
24 intention was simply to point out that due to the Clean Air
25 and Clean Water Act, it would impact the Boeing Company.

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1 Q Now, then it goes on at 2.2, and it's the last sentence I
2 want to talk about. It says in environmental control jargon,
3 this situation is known as the ultimate disposal problem.
4 What is that?

5 A Well, as I have stated during the discussion here, that
6 for example, even if Boeing had taken its waste material to a
7 treatment plant and had treated them to make them non-toxic,
8 we would still have had the materials, and the question would
9 arise, where do you take them, and such a place then would be
10 the ultimate disposal site, because you're going to take them
11 some place and put them there. You don't need them any more.
12 You can't expect to make anything useful from them. Where are
13 you going to put them? There was no such place until
14 Arlington was approved by the state of Oregon. There still is
15 no such place in the state of Washington.

16 Q Let me ask you, why can't you design a plant where these
17 wastes come in and just disappear and ice cream comes out the
18 other end?

19 A You can design such a plant but the cost would be enormous
20 to recover or reclaim a small amount of material that there
21 really is no market for, because if I were trying to sell
22 chromic acid, for instance, or cadmium metal, or something
23 that we extracted to industry, there would be a small amount,
24 maybe 50, 60 pounds at a time, or something. That is not a
25 commercial quantity. There is no way to sell it. They would

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1 buy from reputable firms that are in the business or providing
2 these materials.

3 Q Now, can we go to the next page, please? Now let me
4 direct your attention to 2.5. I want to look at the last
5 sentence there. Regulatory agencies of the federal, state and
6 local level must license and monitor discharging industries
7 and disposers, who generally have no intention of entering the
8 disposal business, preferring instead to leave it to the
9 private sector.

10 Why do you make that comment? What were you
11 trying to communicate?

12 A Again, in its wisdom, the Congress passed a law saying
13 certain things. They didn't say and have made no provision
14 for where you can take these things which is the ultimate
15 disposal. The federal government doesn't enter into, nor the
16 state, the business of disposal of these materials. They have
17 in fact left this up to private industry.

18 Private industry, then, can clean up things coming
19 out of stacks. When they remove the materials that might be
20 poisonous coming out of those stacks, be it a steel mill or a
21 copper smelter, they don't have a place to put the material.
22 It doesn't go away. So the disposal, ultimate disposal,
23 problem comes up again, and it is up to the federal government
24 and the state to provide a place where you can take this.
25 It's the not in my back yard syndrome like with garbage again

1 just recently - yesterday - to take Seattle's garbage down to
2 Oregon.

3 Q Let me ask you this: You go on to 2.7 and talk about a
4 new federal law that makes the generator and the disposer
5 liable for it. Why did you point that out?

6 A Where was that statement made?

7 Q In 2.7.

8 A 2.7? Yes. This was the retroactive cradle to grave
9 concept. The law as passed by the Congress stated that
10 whoever used the materials would be responsible after the
11 fact for where these things were or if any pollution occurred,
12 and you were going -- industry was going by regulation prior
13 to the Clean Air and Clean Water Acts, and what was acceptable
14 then might not be acceptable in 1977, and certainly not today.

15 Q Can we go to the next page, please? When you say there in
16 3.0, it says it will be necessary and is recommended that
17 Boeing continuously monitor disposer activities to assure
18 itself as a prudent man entity that proper and legal
19 activities are practiced by the disposer.

20 Why did you make that comment?

21 A Because that's what was in the law, sir. It says that
22 since the Clean Air, Clean Water Acts said that the user was
23 responsible, Boeing was using these materials, we had to pay
24 very close attention to where we took them, who received them,
25 and what they did with them.

1 Q Would you go to 6.27, please?

2 THE COURT: Let's pause at this point. There is a
3 matter I need to take up with the lawyers, ladies and
4 gentlemen, so it might be a little longer than fifteen
5 minutes. You will now be excused for the morning recess.

6 (The following proceedings
7 occurred out of the presence
8 of the jury:)

9 THE COURT: I can give you now the rulings on the
10 defendants' motions regarding expert testimony. There are
11 three of these motions and the briefs are sufficient. I don't
12 believe it's necessary to have argument on them. I'll be glad
13 to hear from any counsel after I give the rulings as to any
14 question you may have.

15 There is a motion to exclude expert testimony on
16 industrial waste and disposal practices. There is a motion to
17 exclude expert testimony on environmental legislation and
18 regulations. There is a supplementary motion regarding Dr.
19 Landau. These overlap to some extent and I'll give you the
20 rulings that will apply to all three motions.

21 The defendants have introduced evidence that
22 Western Processing and Queen City Farms were not state of the
23 art facilities, and that other better methods of waste
24 disposal were available, although more expensive. This is not
25 directly probative of what Boeing expected or intended but it

1 has been held relevant enough to come in. It follows that the
2 plaintiff may introduce expert testimony on what the state of
3 the art was and what methods were available at the time.
4 However, evidence of what particular companies did, or what
5 particular companies or individuals expected or intended,
6 other than the Boeing Company, will not be admitted. We've
7 talked about this before, both before and during the trial,
8 and I am going to adhere to the same ruling. No reasonable
9 inference as to what Boeing expected or intended could be
10 drawn from what another individual or company expected or
11 intended. To get into that subject would easily lead to a
12 series of mini trials which would waste a great deal of time
13 to no purpose.

14 Now in saying what I've just said, Mr. Landau is
15 not restricted in describing his experiences in order to show
16 his qualifications. In other words, he may mention the jobs
17 that he has worked on, but he should do so in a way that does
18 not describe how other named companies or individuals disposed
19 of their industrial wastes.

20 As to what Boeing representatives told Dr. Landau,
21 his testimony on what Boeing representatives told him may be
22 testified to as bases for his opinion to the extent that he
23 relied upon it, upon the statements, and for that limited
24 purpose can be admitted.

25 As to expert testimony concerning environmental

1 legislation and regulations, the provisions of CERCLA have
2 been covered to the extent necessary in the instruction given
3 during the impanelment of the jury, and I expect to cover that
4 subject again in the final instructions. Expert testimony as
5 to environmental laws or law generally is not admissible, and
6 even if it were, it would be excluded under Rule 403 because
7 of the risk of undue prejudice and waste of time.

8 In this case Boeing has relied on state of
9 Washington approval and the defendants have offered evidence
10 to the effect that the state of Washington allowed pollution
11 at least some of the times in question. I'll be glad to hear
12 from any party who wants to offer expert testimony on whether
13 and to what extent the Washington agency, the Pollution
14 Control Commission, or the Department of Ecology in their
15 regulations or practice allowed pollution of ground water or
16 soil. And if you would be kind enough to let me know
17 specifically what you have in mind, if anything, on that
18 subject, I'll be glad to give a further ruling.

19 Finally, Dr. Landau may give expert testimony as
20 to property damage occurring at Western Processing during all
21 policy years. His testimony would not be limited to the years
22 Boeing used the facility.

23 Now, does that cover everything that needs to be
24 covered in regard to these motions?

25 MR. MURRAY: Judge, I have one question, a nuts

1 and bolts question. I don't intend to go into much detail
2 with Dr. Landau on industry standards, but he does have an
3 impressive client list. In the case of say Mobil Oil, is he
4 to say a large oil company or does he ride the fence if he
5 uses the words Mobil Oil?

6 THE COURT: He can use the word Mobil Oil, but
7 what would not be permitted is to testify that Mobil Oil
8 disposes of its wastes just like Boeing did, or something to
9 that effect.

10 MR. FORSBERG: Your Honor, I have one question on
11 the pre-1964 issue. It's my understanding, although I haven't
12 had time to look, but I'll have to check over the break, that
13 Boeing has not sued my client or any of the other defendants
14 for damages at Western Processing on the pre-'64 policies, and
15 if that's the case and they haven't made a claim against those
16 pre-'64 policies for Western Processing damage, and I want a
17 clarification from the Court as to whether in that case, if
18 that is true, which I believe it is, Mr. Landau would still be
19 allowed to testify about the pre-'64 damage aspects.

20 THE COURT: Any response to that?

21 MR. MURRAY: Yes. Judge, I think they are
22 noticed. We can certainly check that at the break, but in any
23 event, it's still highly relevant because of what was there,
24 the flue dust, and it's very relevant to the continuing
25 process fro

1 THE COURT: I think it's relevant enough to be
2 admitted. The ruling will be the same.

3 Anything else counsel need to take up?

4 We'll be at recess for fifteen minutes.

5 (Recess.)

6 (The following proceedings
7 occurred in the presence
8 of the jury:)

9 THE COURT: Be seated, please.

10 Mr. Gordon.

11 MR. GORDON: Yes, Your Honor.

12 Q (by Mr. Gordon) Now going back to your study and 627, the
13 last three digits, do you have it there, sir?

14 A Yes, sir.

15 Q Do you remember where you were talking, I think it was
16 with Mr. Forsberg, about the work you did in 1977 as including
17 some of the past studies?

18 A Yes, sir.

19 Q Now, 1.1 is Bovay Engineers, and it included what? I
20 would ask, I guess the second to the last sentence.

21 A It says here that it concludes a concentrated waste would
22 be disposed by destruction in an expanded Auburn waste
23 treatment plant. And that was April of what year?

24 A 1970.

25 Q The next one is the joint task force we've talked about

1 previously.

2 A That's correct.

3 Q And what did it conclude?

4 A It concluded that there was no economic reason to attempt

5 by-product reclamation and recommended negotiating a contract

6 with Chempro.

7 Q And then you make a note. Why did you make the note?

8 A Note: Chempro did not have a permit or facilities to

9 accept these wastes. At that time they did not.

10 Q And then you've got what what? An internal Boeing report?

11 And what was the recommendation there?

12 A The recommendation was to "destroy concentrated wastes at

13 the Auburn waste treatment plant."

14 Q And 1.4 was to the same import, January '71?

15 A Yes.

16 Q Now, Mr. Carlson, you knew quite a bit about the Auburn

17 treatment plant, didn't you?

18 A Yes, sir.

19 Q And were you aware from time to time that people said

20 let's do it at Auburn?

21 A Yes.

22 Q Did that raise concerns for you?

23 A Yes.

24 Q Let's go to 6.36. I'd like you to run down this one. I'd

25 like you to go through and tell the jury here, if you could,

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1 what the concerns were with Auburn, your concerns anyway.

2 A The Auburn plant was Central Fabrication. They made parts
3 for Wichita, they made parts for the hydrofoils, for
4 everything that Boeing produced. It was essential that the
5 operations at the Auburn rinse water waste treatment plant be
6 continuous because Boeing was making these parts every day in
7 the week, sometimes they worked Saturday and Sunday. We could
8 not do anything with the Auburn rinse water waste treatment
9 plant that would endanger that capability to treat rinse
10 water.

11 Bringing all the concentrated wastes out and
12 simply adding them to the Auburn plant operation, expanding
13 it, if you will, would have risked something going wrong that
14 would have shut down Boeing's manufacturing operations at
15 Auburn, and this would not be acceptable. I could not do this.
16 I would inform management that this is an unacceptable risk;
17 that if such a plant were built, it would have to be entirely
18 divorced from the Auburn rinse water waste treatment plant.

19 In addition to that problem, there was a couple of
20 other problems. One, we did have a permit for the waters that
21 we discharged to the Stuck River, and it had limits on the
22 amount of salts that could be in this water that was
23 discharged. If we now accepted a large amount of concentrated
24 chemicals from other Boeing plants and processed these, there
25 would be waters going out that would have a lot more salts in

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1 it that would have exceeded our permit for operating that
2 rinse water treatment plant. That hurdle would have had to
3 have been handled one way or another.

4 Also, just in passing, the president of Auburn,
5 the vice-president, said I don't think I want to run a
6 chemical plant down here at Auburn. If one is put in or were
7 to be put in, do it some place else. So in fact, all the cost
8 estimates were made as if we would do it at Auburn. In the
9 real world we probably would not have done it at Auburn, if we
10 had been forced to do it or asked to do it.

11 Q At 2.6, a little bit different subject, but it says cost
12 of treating chemicals by bleeding into greater volumes of
13 water, which is the situation that would occur if no other
14 consideration existed with regard to treating concentrated
15 chemicals directly is very unfavorable. What are you talking
16 about there? It's 2.6.

17 A I would like to put this in a form that everybody could
18 understand. If you take concentrated materials and simply
19 bleed them in, add them a little bit at a time, to a waste
20 treatment like we had with our rinse water, you have a very
21 large volume of water containing a small amount of chemicals,
22 and in order to destroy the chemicals, you have to put them in
23 a lot of treatment chemicals, because it's sort of like
24 shooting fish in a rain barrel. There's one here and there's
25 one over there and you've got to spray bullets all over the

1 place to react to them, as compared to concentrated liqued
2 wastes, they are all right there in a small volume. And my
3 chemicals that I use to destroy these things are limited just
4 strictly to the volume that I have. I don't have a whole
5 bunch of water to load with chemicals just to reach all of the
6 materials that are in that water.

7 Q Can we go to the next page? I'll just leave this up a
8 little bit. In 3.3 you indicate that if you went this way,
9 residual waters would have to go into Metro. Why was that?

10 A Well, I suspected it at the time. They would not -- the
11 state would not give approval to change the discharge permit
12 for our rinse water, from our rinse water waste treatment
13 plant, and with the increased amount of salts in it, they
14 would probably want this to go to Metro.

15 Q And where did the Stuck go?

16 A The Stuck flowed down into Tacoma, into the bay down
17 there.

18 Q How about 3.4? What concerns did you have there?

19 A There again, if you're treating concentrated materials,
20 and that's what the statement says, there are always risks
21 involved. So far as our insurance, so far as environmental
22 impact, all these considerations would have had to have been
23 dealt with.

24 Q What about environmental impact statements, regulatory
25 agency permits? What are you talking about there?

1 A Oh, shoreline permits. It depends on how close you are to
2 water sources as to the possibility that something would get
3 in the water source, these types of things.

4 Q How about 3.6, over the road transportation. What were
5 you pointing out there?

6 A There was really -- it would be an increased risk to some
7 extent in that all of Boeing's materials, instead of going to
8 Western Processing now in Kent would now come to Auburn.
9 They'd have to be transported over the road still, but that
10 would involve more over the road risk.

11 Q And when you changed to Chempro in 1977, was the contract
12 requirement that Boeing did no further trucking?

13 A That's correct.

14 MR. FORSBERG: Leading, Your Honor.

15 Q Why was that?

16 THE COURT: Sustained. Let's avoid leading
17 questions.

18 Q (by Mr. Gordon) Was transportation of wastes an issue in
19 the 1977 evaluation you did?

20 A The Boeing Company preferred not to be involved in
21 actually trucking the concentrated wastes over the road, and
22 so they wanted to put the contractor essentially at risk by
23 doing this transportation himself, or go to a private
24 contractor and have these materials transported.

25 Q Now, 3.8 it says, residual solid materials would result

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1 from operations performed and would still require separate
2 disposal. What does that mean?

3 A This again, sir, is what we were just discussing a short
4 while ago, the ultimate disposal problem. I would have had
5 essentially very large amounts of sludge. This is the end
6 problem, and where would I put this material? I'd still have
7 to get that problem resolved, or the Boeing Company would have
8 had to.

9 Q Now, would the volumes of sludge increase or decrease if
10 you developed a concentrated treatment plant?

11 A Oh, very much increase.

12 Q Why is that?

13 A We're treating a lot more chemicals. Everything that
14 Western Processing was getting were chemicals that we wouldn't
15 be treating, but now we are treating all these chemicals. We
16 would then have the same problem that Western Processing had,
17 and he actually made something out of them.

18 Q Okay. Now would you go to 804, please? Excuse me. 831.
19 I beg your pardon.

20 A 831?

21 Q Yes. As a part of the work you did in 1977, did you do a
22 survey of any other companies?

23 A Yes, sir.

24 Q Do you have 831?

25 A Not yet. I'm looking for it. It's way in the back end I

1 guess. 821.

2 MR. FORSBERG: You're getting there.

3 MR. SCHOEGGL: I believe this has been covered,
4 Your Honor.

5 THE COURT: Would you repeat the question, please?

6 MR. GORDON: Yes. I said as a part of his work on
7 the '77 report that we've been discussing, and was brought up
8 by counsel, was there a survey done of other companies that he
9 personally performed.

10 THE COURT: Are those shown in the report?

11 MR. GORDON: Yes.

12 THE COURT: And it's in evidence?

13 MR. GORDON: Yes, sir.

14 THE COURT: The objection is overruled.

15 Q (by Mr. Gordon) Do you have my question now, Mr. Carlson?

16 A Yes, sir. We did survey what other companies were doing.

17 Q Let's talk about 1.1. Where was McDonnell-Douglas taking
18 their concentrated chemicals, solvents and oils?

19 A We contacted all of these concerns and found out where
20 they were taking them. It so states in the section here, who
21 we contacted and where they were taking these materials.

22 Q How about McDonnell-Douglas? Where were the concentrated
23 chemicals going?

24 A Pardon?

25 Q How about McDonnell-Douglas, 1.1? Where were the

1 concentrated chemicals going?

2 A Well, I have to find --

3 Q 1.0. The first one.

4 A 1.0? The city of Long Beach. All concentrated chemical
5 wastes, solvents and oils are handled by outside contractors.

6 Q Okay. Let's go to Lockheed Aircraft, and I think it's the
7 last sentence at the bottom of the page. Did you find out
8 where they were taking them to?

9 A Outside contractors haul all concentrated wastes from
10 their plant, including solvents, oils and other hazardous
11 materials.

12 Q Let's go to the next page. How about General Dynamics?

13 A The General Dynamics Company truck hauls paint, sludge,
14 acids and alkalis to the Omar private dump in 200-gallon tanks
15 to be disposed of at a fee of \$10 per truckload. The recovery
16 company picks up on a regular basis and pays 40 cents per
17 gallon for these solvents and 12 cents for all hydraulic,
18 cutting and crankcase oils.

19 Q How about Rockwell International?

20 A They have always had waste hauled away by an outside
21 processor.

22 Q And how about Chrysler?

23 A At the last paragraph it says they have complete metal
24 finishing and painting facilities. All of the plating and
25 rinse water are treated and concentrated with the concentrate

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1 being hauled away.

2 Q I want to do one further subject on this. Would you go to
3 804?

4 A 804?

5 Q Yes. Do you have that in front of you, Mr. Carlson?

6 A Yes, sir.

7 Q And is that signed by anyone on the second page?

8 A I signed it.

9 Q And what was the survey report?

10 A The conclusion, sir, or what?

11 Q No. Did you author this survey report?

12 A Yes.

13 Q This hasn't been blown up on the board, but it says 2977.

14 Is that at the top of yours?

15 A 2977. I don't have that, but I have the same page, I
16 think.

17 Q Okay. Did you make survey reports on all the three
18 bidders that participated in 1977?

19 A Yes.

20 Q What is this?

21 A Apparently this is Western -- the report on Western
22 Processing when we went there.

23 Q Now, it indicates in the second paragraph, Western
24 Processing apparently disposed of all sludges including heavy
25 metals by combining them with wastes from other companies to

1 produce fertilizer. Was that consistent with what you were
2 told by Mr. Nieuwenhuis?

3 A That is consistent with what I got from Mr. Sargent. I
4 don't recall particularly that Mr. Nieuwenhuis made that
5 statement.

6 Q How about wood retardant -- wood fire retardant. Did you
7 have an understanding that he was making that?

8 A Yes. I was given a flow sheet at this time and it
9 purported to be what Mr. Nieuwenhuis's operations were.

10 Q In the last part of this first paragraph, it says Mr.
11 Nieuwenhuis made the statement that Boeing representated less
12 than half his business. Do you recall that?

13 A I don't particularly recall it but it so states here.

14 Q And was it your habit to be accurate in these sorts of
15 statements?

16 A As much as I could, yes.

17 Q Would you go to the next page, please? Would you identify
18 for me the conclusions that the task force in '77 made with
19 regard to Western Processing in this survey report?

20 A All right. The first sentence, the first paragraph,
21 Western Processing has the capability of handling Boeing
22 wastes, chemical liquids, oily wastes and solvents.

23 The second statement, that paragraph, the company
24 now has brought the president's son in to learn and operate
25 the business. Obviously they are not contemplating going out

1 of business.

2 The third sentence, with over half his business
3 being outside of Boeing, they probably could sustain their
4 operation without the Boeing contract.

5 The fourth statement, Western Processing does not
6 wish to become included in waste transportation. The last
7 statement there is Western Processing are established in this
8 chemical waste business and have no doubt developed the most
9 efficient methods of utilizing these waste materials in the
10 production of salable products.

11 Q Is that the conclusion of the survey report?

12 A Yes, sir.

13 Q May the witness be handed Exhibit 0428? I think it's
14 there.

15 Can I approach the witness, Your Honor, to try to
16 find that?

17 THE COURT: Yes.

18 Q I think it's marked with a big X on it.

19 I'm handing you, Mr. Carlson, a part of Exhibit
20 428. Do you see the part that's flagged?

21 A Yes, sir.

22 Q Do you remember when Mr. Forsberg was talking with you
23 about analyses that were made of sludge?

24 A Yes, sir.

25 Q And whether or not it was given to the state.

1 A Yes, sir.

2 Q Can you identify this part of 428?

3 A With the X?

4 Q Yes. What is that?

5 A It is a letter to the Department of Ecology signed by Mr.
6 Stu Sargent.

7 Q And it's forwarding to the state what?

8 A The subject is Boeing waste treatment plant sludge, and it
9 references a discharge permit. It says that the sludge is
10 presently being transported to Western Processing. It gives
11 the amount of such sludge. It states that we could further
12 filter the sludge to make less gallons and concentrate the
13 material; that we could use the area adjoining the waste
14 treatment plant as a sand filter and put the sludge, in
15 essence, on the ground down in Auburn.

16 Q How about the first full paragraph on page 2?

17 A It says that the solids content of the sludge consists of
18 an innocuous mixture of (1) hydrated silicates of calcium,
19 sodium, aluminum and magnesium, (2) chrome green, a valuable
20 oxide of chromium essentially as found in natural form, and
21 (3) lesser amounts of oxides, hydroxide or carbonate of zinc,
22 copper and manganese, cadmium, lead and nickel. A
23 quantitative analysis has been made of a compound of a number
24 of metals and sludges and discharges and is in our holding
25 tanks for transfer to Western Processing, and then a copy is

1 attached for your information.

2 Q And after this letter at some point in time was the
3 company given authority to store the sludge on the ground at
4 Auburn?

5 A Yes, sir.

6 MR. GORDON: Nothing further.

7 THE COURT: Recross?

8 MR. FORSBERG: Briefly, Your Honor.

9 May I approach the witness to show him one of the
10 other letters in that file?

11 THE COURT: Yes.

12

13 RECROSS-EXAMINATION

14 Q It's 428, No. 21, sir, if you could find that.

15 A This one?

16 Q It's right there. Do you have that before you, that hand-
17 penned note from Mr. Stu Sargent?

18 A Yes.

19 Q And that's a pen note to Mr. Reischl. Correct?

20 A Yes, sir. That's what it says.

21 Q We can read in that that in a telephone conversation with
22 Bob McCormick of the DOE yesterday, I advised him that they
23 wanted to put this sludge in plant at Auburn. That's correct,
24 isn't it?

25 A I have never seen this. Let me read it first.

1 Q Okay.

2 A I'll take your word that that's what it says.

3 Q Go ahead. Read that and then I'll ask you a question
4 about it.

5 A Yes, sir.

6 Q You've had a chance to read it?

7 A Yes.

8 Q Okay. And in that it says he had a conversation with Bob
9 McCormick. That's right?

10 A Yes.

11 Q So it's apparent that Mr. Sargent had by-passed Mr.
12 McCann who did not want you to take these sludges any more to
13 Western Processing, and he did not want them at Auburn. He
14 by-passed Mr. McCann and he went to Mr. McCormick and Mr.
15 McCormick said, okay, it's all right.

16 MR. GORDON: Your Honor, counsel is testifying.

17 THE COURT: It can be rephrased.

18 Q (by Mr. Forsberg) Are you aware that Mr. McCann was not
19 in favor of the Boeing Company placing these sludges at
20 Auburn?

21 A No, sir.

22 Q Did you have any understanding that initially Mr. McCann
23 was against that?

24 A No, sir.

25 Q All right. Now, did you understand that at some point,

1 based upon conversations that you had with Mr. Sargent, that
2 you were allowed to place those sludges at Auburn?

3 A Yes, sir.

4 Q And he told you that I have spoken to Bob McCormick and he
5 now tells me that we can temporarily store these wastes at
6 Auburn; is that correct?

7 A That's what this letter says. I don't believe that he was
8 talking to me. He was talking to Gene Reischl here, and it
9 may have been Gene that said fine, we'll do this, and he may
10 have initiated that action himself. I didn't prepare the
11 site. All I know is we got approval to do it and it was done.

12 Q Okay. Reading down here just a little further, if you
13 will stick with me for a moment, it says of Mr. Sargent, I
14 would suggest installing well points or some other means of
15 monitoring migration of pollutants into the ground. Is that
16 what that says?

17 A Yes, sir.

18 Q Do you see anywhere in there where it says means of
19 monitoring migration of potential pollutants into the ground?

20 A No, sir. It just says monitoring migration of pollutants
21 into the ground.

22 Q And to monitor the migration of the pollutants into the
23 ground at Auburn where you placed this, Mr. Sargent wanted to
24 put well points out?

25 A Yes, sir.

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1 Q And you're aware that those well points were put out?

2 A Yes, sir.

3 Q And you're also aware from what we discussed yesterday
4 that there was an analysis done by the Boeing Company --

5 A Yes.

6 Q -- later, in 1977, and we talked about that analysis
7 yesterday.

8 A Yes, sir.

9 MR. FORSBERG: I have no further questions. Thank
10 you.

11

12 RECROSS-EXAMINATION

13 BY MR. ISRAEL:

14 Q Do you still have your opus before you there?

15 A Yes, sir.

16 Q Okay. We're going to go back to it for a bit and talk
17 about some of the pages Mr. Gordon just showed you. Maybe you
18 could turn first, sir, to page 832.

19 A 832?

20 Q Right. It's the one about the Chrysler Corporation.

21 A Yes, sir.

22 Q You chose to read in the three paragraphs. Referring to
23 the Chrysler Corporation, the last paragraph, would you read
24 to the jury the second paragraph, please?

25 A There are few disposal agencies or processors in Detroit,

1 and it is the responsibility of Ford, General Motors and
2 Chrysler to accomplish their own disposal which they attempt
3 to do on an economic basis. However, they are forced to go
4 beyond economics for public relations reasons.

5 Q All right. And if we could go to the next page, sir,
6 Section 6, talking about General Motors.

7 A Yes, sir.

8 Q Would you read for the jury the last two paragraphs of the
9 description on General Motors?

10 A Thowder still are used to concentrate in processed chrome
11 and other rinses. The condensate goes back to the rinse tank
12 and the concentrate goes to the process tank.

13 Q Continue.

14 A Practically all of the cyanide plating baths have been
15 eliminated in favor of non-cyanide plating solutions.

16 Q And that was the result of your survey with regard to
17 General Motors?

18 A Yes, sir.

19 Q All right. If you could turn now, sir, to page 804. This
20 is the liquids waste disposal survey report that you were
21 talking about a few moments ago to Mr. Gordon?

22 A Yes, sir.

23 Q Would you read the first paragraph, please?

24 A This Kent located disposal facility has been in operation
25 for the last twelve years, during which time it has treated

1 all or most all of the Boeing liquid chemical wastes other
2 than oil and solvents. Although it has been the target of
3 much local criticism and is not the epitome of cleanliness, we
4 are told that it generates no effluents to the ground or
5 adjacent stream or to the Metro sewer system. Its compliance
6 has been confirmed verbally by the State Department of
7 Ecology.

8 Q And this was a survey report prepared by you?

9 A Yes, sir, in conjunction with the other members of the
10 team.

11 Q And this is about the time that you were just getting
12 ready to cease using Western Processing?

13 A When we got all of the quotations in, a selection was made
14 based on cost, and I believe at that point in time we did no
15 longer take materials to Mr. Nieuwenhuis.

16 Q And that, sir, is directly contrary to what you put in
17 another report of which you were a member of, were you not,
18 where you said Western Processing has polluted and is a
19 pollution risk?

20 A Again, sir, the --

21 Q Sir, just answer my question. Is that not directly
22 contrary to what you submitted in the report, the other report
23 that said Western Processing has polluted and is a pollution
24 risk?

25 A I did say that in a report.

1 Q And you attempt to be accurate in your reports, do you
2 not?

3 A Yes, sir.

4 Q Now, if we could go to page 634.

5 A Yes, sir.

6 Q Now, you knew an awful lot about the Auburn plant, did you
7 not?

8 A Yes, sir.

9 Q You were intimately involved in its design from day one
10 and worked closely with the independent contractor hired by
11 Boeing to actually lay out the design and erect the plant?

12 A Yes, sir.

13 Q On page 634 do you not in this report, which has been
14 referred to as an opus, point out that with regard to
15 hexavalent chromium -- that's the most popular kind, isn't it?

16 A Yes, sir.

17 Q And that was being sent to Western Processing, wasn't it?

18 A The concentrates. Yes, sir.

19 Q Do you not point out that specific excess capacity exists
20 at Auburn with regard to hexavalent chromium?

21 A Yes, sir.

22 Q How much excess capacity?

23 A Excess? It just says the capacity is 2,000 pounds per
24 day.

25 Q But it also says how much is presently being treated.

1 A 90 pounds.

2 Q Pardon?

3 A 90 pounds.

4 Q So we could find out the excess by taking the total
5 capacity and subtracting what was actually being processed.

6 A Yes, sir.

7 Q All right. There is also excess capacity for cyanide,
8 too, isn't there?

9 A Yes, sir.

10 Q And those are being sent to Western Processing.

11 A The concentrated materials, yes, sir.

12 Q OKay. And what is the excess capacity for concentrated
13 cyanide material?

14 A It says in this report that the design is 300 pounds per
15 day. We were treating currently on single shift use only
16 three pounds per day.

17 Q Three from 300?

18 A Yes, sir.

19 Q There was also excess capacity with regard to oily waste.

20 All right, sir. Now Mr. Gordon was going down the
21 points in Section 3 here, starting with 3.1, beginning on page
22 636.

23 A Yes, sir.

24 Q And went through page 637?

25 A Yes, sir.

1570

1 Q But we didn't see page 638. Would you read page 3.1 on
2 page 638, please?

3 A Adding major concentrated chemical treatment facilities at
4 Auburn would involve operations that tend to be odorous and
5 unsightly. Of necessity there would be many 55-gallon drums
6 around, more tanks and the like. Such activity might not be
7 commensurate with the Auburn plant image.

8 Q Image?

9 A Yes.

10 Q That's the last word?

11 A Yes.

12 Q May the witness please be shown Exhibit A-2983?

13 Just briefly take a look through this, sir.

14 A Yes, sir.

15 Q Now that's another one of those Boeing reports that they
16 do on flip charts, isn't it?

17 A Yes, sir.

18 Q And this is, you recall when I first got to examine you,
19 sir, I asked you a question if you were aware that there is an
20 ocean of water under the Auburn plant.

21 A Yes, sir.

22 Q Do you remember that?

23 A Yes, sir.

24 Q This report mentions that.

25 A Yes. That's true.

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1 Q And you're familiar with this report?

2 A Oh, yes, sir. I prepared that report.

3 Q You prepared this report?

4 A Yes, sir.

5 Q Do you recall when you prepared this report, sir?

6 A Is there a date on it? It would have been, I think, about
7 1970.

8 Q Okay.

9 A Somewhere around that time period.

10 Q Would you, sir, read to the jury Items 1 through 5
11 entitled purpose of this report.

12 A To identify requirements and impact in the pollution
13 abatement field; to alert management that we had better get
14 prepared; to show that planning must start now because time is
15 about run out; to outline our deficiencies and problems; to
16 demonstrate that it's going to be expensive.

17 Q Sir, would you turn to page 418, please?

18 A Yes, sir.

19 Q Would you read to the jury what you've denominated as
20 additional factors?

21 A The first bullet says the conservationists and the press
22 keep preaching cleanliness, although in many cases misguided
23 or wrong, and highlight every accidental spill or puff of
24 smoke.

25 The second bullet says, these people and the

1 politicians insist ont he impossible, like stopping sulfur
2 dioxide emission 100 per cent. It can be done but by stopping
3 all fuel oil burning and shutting down all smelters and not
4 burning coal, but all sulfur dioxide from these sources is
5 only a small fraction of what Mother Nature puts out from
6 volcanos each year.

7 The third bullet says these factors can hurt us
8 and we must reassure all that we are good guys, a PR job that
9 needs doing.

10 Q That's what you were telling management?

11 A Yes, sir.

12 Q Does this report, sir, reflect your personal opinions and
13 your personal viewpoints towards the question of the
14 environment and pollution?

15 A Yes, sir.

16 MR. ISRAEL: I would move to admit this exhibit,
17 Your Honor.

18 MR. GORDON: No objection.

19 THE COURT: Admitted. What is the number again?

20 MR. ISRAEL: Sir?

21 THE COURT: The number?

22 MR. ISRAEL: I'm sorry, Your Honor. A-2983.

23 (Defendants' Exhibit No. A-2983
24 for identification received
25 in evidence.)

1 Q (by Mr. Israel) This report, to the best of your
2 recollection, was in 1978 about?

3 A Well, yes. Just glancing at this on the next page, it was
4 later than that because it says that by mid-1977 -- no, I
5 think it's -- somebody may have said '71, which is the year
6 after I said.

7 Q '70 or '71?

8 A In that time frame.

9 A Now, with regard to Western Processing, it wasn't your job
10 to deal with the regulators, was it?

11 A No, sir.

12 Q In answer to one of Mr. Gordon's questions, you used the
13 word "approved" with regard to Western Processing.

14 A Yes, sir.

15 Q I take it you never spoke with Mr. Nunnallee of the DOE?

16 A Not on that subject. I did not know him.

17 MR. ISRAEL: Thank you. I have no further
18 questions.

19 THE COURT: Anything further?

20 MR. GORDON: Nothing further.

21 THE COURT: Thank you. You may step down.

22 MR. GORDON: May the witness be excused, Your
23 Honor?

24 THE COURT: Any objection to this witness being
25 excused?

1 MR. ISRAEL: He may be excused.

2 THE COURT: The witness is excused.

3 (Witness excused.)

4 MR. GORDON: I think we're going to show a video
5 deposition at this time, Your Honor.

6 THE COURT: Very well.

7 MR. GORDON: Your Honor, the next witness is Mr.
8 Robert Selm from Wichita, which will be shown by videotape.
9 We've got a portion we're showing and then my opponents have
10 another portion that they will show.

11 THE COURT: Fine.

12

13 ROBERT P. SELM, called as witness on behalf
14 of the plaintiff, testified by
15 deposition, as follows:

16 EXAMINATION

17 Q For the record, sir, could you give us your name?

18 A Robert P. Selm.

19 Q And where do you live?

20 A I live here in Salina.

21 Q Could you give us your background and education in a
22 nutshell?

23 A I'm chemical engineer. I have been educated at the
24 University of Cincinnati, and I have worked for -- since 1954,
25 for Wilson & Company Engineers and Architects here in Salina.

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1 Q Okay. I'd like to mark as the first exhibit -- this will
2 be R.P.S. No. 1. If you could identify that for the record
3 I'd appreciate that.

4 A This is the company-inspired resume that covers my career
5 time.

6 Q Okay. And, again, your educational background post high
7 school is what, sir?

8 A Oh, I have a -- a Bachelor of Science in chemical
9 engineering that I got in 1949 from the University of
10 Cincinnati, College of Engineering, and a professional
11 engineering degree, which was given to me in 1958.

12 Q What was your professional engineering degree in?

13 A Chemical engineering.

14 Q Okay. Do you have any professional licenses?

15 A Yes, I'm licensed here in Kansas and in nineteen other
16 states.

17 Q And what are you licensed to do?

18 A I'm licensed as either a sanitary engineer in some states
19 and as a chemical engineer in other states.

20 Q And have you ever been a member of any professional
21 associations?

22 A Yes, I'm a member of a number of professional associations
23 as listed on this sheet, and have maintained memberships
24 throughout my career, most of these.

25 Q And you mentioned that you're registered as a sanitary

1 engineer. Could you explain what that means?

2 A That is an engineer who deals with the treatment of
3 wastewater of -- and -- and potable water also, the supply,
4 distribution, treatment and disposal of these wastewaters.

5 Q Now, you mentioned you've been a member of some
6 professional associations. Could you give me some examples of
7 some of the professional associations you're a member of?

8 A Yes, I'm a member of the American Chemical Society, I'm a
9 Fellow of the American Institute of Chemical Engineers, the
10 American Waterworks Association, National Society of
11 Professional Engineers, the Kansas Engineering Society, Water
12 Pollution Control Federation, the American Academy of
13 Environmental Engineers, of which I'm a diplomate. National
14 Association of Corrosion Engineers, the National Water Supply
15 Improvement Association, the American Society for Testing
16 Materials, the Air Pollution Control Association, the Society
17 of American Military Engineers, the American Defense
18 Preparedness Association.

19 Q Okay.

20 A And others not listed here.

21 Q I see that it says you're a Fellow for the American
22 Institute of Chemical Engineers. What all does that entail?

23 A That's a step that they award to certain members of the
24 profession who have been in it for a long time and hopefully
25 have attained some measure of distinction.

1577

1 Q And what does it mean to be a diplomate int he American
2 Academy of Environmental Engineers?

3 A That's given after a test, oral and written. It indicates
4 that you have specialized. It's sort of a board -- board of
5 approval that you get for engineering.

6 Q Are you serving on any committees presently?

7 A Yes, I'm a member of the National Professional -- National
8 Society of Professional Engineers, Legislative and
9 Governmental Affairs Committee in Washington.

10 Q Any other committees that you're serving on?

11 A Yes, I have several ocal committees that I'm on, and I'm
12 also a member of the Environmental Affairs Committee of the
13 Kansas Engineering Society.

14 Q Have you ever been chairman of any of these associations
15 or committees?

16 A Yes, I ahve been chairman of some of those.

17 Q Can you give us an example of any of those that you've
18 been a chairman of?

19 A I was chairman of the Kansas Engineering Society's
20 Environmental Affairs Committee for some twenty years. I'm
21 not currently serving in that capacity.

22 Q And have you received any awards in engineering?

23 A Yes, I ahve been named engineer of the year and
24 citizenship award, and several others.

25 Q When you say engineer of the year, what's -- what was that

1 for?

2 A That's a state -- State of Kansas award that's given to
3 various people who qualify in their judgment.

4 Q Okay. Do you have any patents?

5 A Yes, I have three patents.

6 Q Could you describe what those patents are for?

7 A Well, the first one that I got was for a chromate
8 reduction process used in industrial waste treatment, and
9 another patent covers the recovery of aluminum from chemical
10 milling solutions, which is from aircrafts -- aircraft wastes.
11 And then I ahve an apparatus in the process for the treatment
12 of sludge from the treatment of aircraft wastes.

13 Q Do these -- all of these relate to industrial waste
14 treatment?

15 A Yes.

16 Q Okay. Have you written any articles regarding industrial
17 waste treatment?

18 A Yes, I have got several that I've written through the
19 years.

20 Q Mr. Selm, my name is Chuck Gordon, I represent the Boeing
21 Company. I'd like to maybe take you back and ask some
22 questions chronologically. When did your personal involvement
23 with the Wichita treatment plant begin?

24 A It would have been about in July or August of 1954.

25 Q And did you have any continuing involvement with that

1 plant through the years?

2 A Yes, for many years.

3 Q Okay. How many years would that be, sir?

4 A I would say right up through to -- I can't give you an
5 exact date. Probably around 1980, in that range.

6 Q Okay. What happened in 1980 wherein you had no further
7 involvement with the plant?

8 A The managment at Boeing changed quite drastically. Mr.
9 Joslyn retired and with it my particular status there with Mr.
10 Joslyn as an advisor pretty much terminated.

11 Q Did Wilson & Company through other engineers continue to
12 have involvement with the plant after 1980?

13 A I couldn't speak to it, but I think they did to some
14 extent.

15 Q Now, was -- what is your present status with Wilson &
16 Company?

17 A I'm retired.

18 Q And do you do consulting from time to time on various
19 projects?

20 A At their request, yes.

21 Q And did you do some consulting in this case? Have you
22 been retained to do consulting in this case?

23 A Yes, Wilson has asked me to do this.

24 Q And by whom were you retained?

25 A You mean the name of the man?

1 Q Yes.

2 A Mr. Herb Bassett, the partner in charge now of the
3 industrial division.

4 Q And he's with Wilson & Comapny?

5 A Yes.

6 Q And who ws Wilson & Companyh retained by? That's not very
7 good grammar, but --

8 A Wilson & Comany has been retained by Mr. Umlauf's firm and
9 these other gentlemen. I'm not privy to the contract, so I --

10

11 Q Is that Mr. Umlauf, Mr. Forsberg and Mr. Israel?

12 A Yes.

13 Q And how much time have you spent in this work assignment?

14 A Have I spent?

15 Q Yes, sir.

16 A It hasn't been very much. I'd guess maybe twenty, thirty
17 hours altogether.

18 Q Okay. In terms of the location of Wichita, where it is
19 located relative -- relative to the border of Okalahoma?

20 A Wichita is a number of miles from the Oklahoma border.
21 I'd guess about fifty to sixty miles.

22 Q And if you went the other direction north, what would be
23 the nearest state?

24 A The nearest state would be Nebraska, and that would be
25 another two hundred twenty or thirty.

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1 Q Okay. Can you just tell me generally what the climate of
2 Wichita is?

3 A The climate of Wichita is quite dry. Certainly I would
4 say that in the context, if I think about twenty-six inches of
5 water, of rainfall a year. The seasons are relatively
6 temperate. It can get cold, but it's generally fairly
7 pleasant, quite windy.

8 Q When you started oing work on a treatment plant in about
9 1954, what was the population of Wichita, as best you can
10 recall?

11 A I'm not sure I can, Mr. Gordon. I would -- I'm -- I'm not
12 sure that I could give a number that would -- if I knew then,
13 I'm sure I did, but I don't recall now.

14 Q How about now, do you know?

15 A Oh, I think about a half million, roughly.

16 Q And can you tell me a little bit, what was the existing
17 industrial base in Wichita when you started doing this work in
18 1954?

19 A Existing -- existing industrial base was aircraft
20 industries, some refining, fair measure of oil and gas, and a
21 fair measure of agriculture. Probably about equal thirds.

22 Q Amd what was the aircraft idustry, what companies were
23 doing business in Wichita at that time?

24 A Boeing was predominant. Cessna and Beech were two lesser
25 aircraft industries.

1 Q How -- do you know how Wichita had developed this aircraft
2 industry historically?

3 A Only from what I have heard, that the Steerman operation
4 was bought out by Boeing, whatever Boein was. I don't know
5 the detailed background of it.

6 Q And what was Steerman operation, as you referred to it.

7 A Steerman was, as I understand it, as I recall what I've
8 heard, was what we now know as Plant 1, and they built an
9 aircraft there.

10 Q Do you know when Boeing acquired Plant 1?

11 A No, I don't.

12 Q What was Boeing's ownership in the Wichita area when you
13 started in 1954?

14 A Boeing owned Plant 1. The Plant 2, or the major plant
15 that we think of when we talk about Boeing, for which we
16 designed this plant, this waste treatment plant, was
17 Government Aircraft Plant No. 13.

18 Q And what does that mean?

19 A It was owned -- it was a contractor-operated, government-
20 owned, or a GO-CO plant, and it was operated by Boeing for the
21 Department of the Air Force.

22 Q Was that the Air -- Had the Air Force been constituted
23 then as an existing branch or was it the Army Air Corps, or do
24 you recall?

25 A I recall well. It was in a separate branch then.

1 Q When -- when did that conversion take place?

2 A In, I would guess, '47 or '48.

3 Q Now, the operation of a government-owned plant such as 13,
4 was that unique to Wichita, or -- or were there other
5 government-owned plants around the country operated at the
6 time by independent companies?

7 A There were a number of other such plants, GO-CO palnts.

8 Q Okay. And can you tell me some of them, please?

9 A Yes. I don't know about the Seattle area, but I do know
10 that the plant in Tulsa was a GO-CO plant; the plant in --
11 that we designed for in Dallas, Texas, or LTV Corporation, was
12 a GO-CO plant, Navy in that case. The Grumman plant is also a
13 GO-CO plant, Navy. The plant in Lockheed Georgia is an Air
14 Force plant. Most of these are still -- in a few cases
15 they've been sold to the operators, like Boeing has bought the
16 Plant 13.

17 Q And do you know when Boeing plant -- purchased Plant 13?

18 A I'm going to guess it was about 1980. I don't remember
19 precisely.

20 Q You said a term, and I'm -- I'm sorry if I -- if I didn't
21 catch it, but in -- in relationship to Lockheed and the
22 Dallas, was it GO-CO or --

23 A GO-CO, G-O-C-O, Government --

24 Q What does that stand for?

25 A Means government-owned, contractor-operated.

1 Q Addressing a 1954 Boeing Plant 1, that was owned -- owned
2 by Boeing, I take it?

3 A That's my understanding.

4 Q And what were they making there, as best you can recall?

5 A I think it was just simply some parts, assemblies. They
6 weren't real busy. As a matter of fact, it was during -- much
7 of the period it was fairly -- fairly quiet. Boeing
8 alternates between periods of great busyness and very little
9 busyness, you know, during the period. The payroll goes up
10 and down and there's a lot of -- with the economic times.

11 Q And in 1954, that would have been after the Korean War was
12 over, as I -- I take it?

13 A No, I think Korea was still going on until shortly after
14 that, another year or two.

15 Q Do you know what Boeing had manufactured at its Plant No.
16 1 during World War II?

17 A No, I don't know that.

18 Q Let me switch you to the Air Force Plant 13, as of 1954
19 when you got involved. What were they manufacturing there?

20 A In 1954?

21 Q Correct.

22 A In 1954 they were manufacturing the B-47.

23 Q And what was the B-47?

24 A The medium bomber that was used by the Air Force for a
25 number of years after that period.

1585

1 Q Was the B-47 manufactured as of 1954 at Governmetn-owned
2 Plant 13?

3 A I believe so.

4 Q And what was the next generation of bombers that was
5 manufactured at that plant?

6 A The B-52.

7 Q Was an Air Force Base located in the proximity of Plant
8 13?

9 A Yes. Boeing shared the runways and some of the facilities
10 with McConnell Air Force Base. That was built just a few years
11 before that. In fact, our firm did the design for the base.

12 THE COURT: It's time for the midday recess.
13 Members of the jury, we will be at recess until 1:30 p.m.

14 (Noon recess.)

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